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THE BUILDING OF AN INDUSTRIAL SOCIETY  
Change and Development in Kenya's  
Informal (jua kali) Sector  
1972 to 1991  
Discussion paper no. 292  
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### Introduction and Acknowledgments

When Kenneth King wrote the acknowledgments for *The African Artisan*, it is noteworthy that there were only two scholars mentioned, who had made some impact on his thinking about the informal sector: the late Per Kongstad and Colin Leys. In Nairobi in 1972 and 1973, there was not much danger of bumping into a research assistant in Shauri Moyo administering a questionnaire on the informal sector. By contrast in 1991, it would be possible to create a small library on schemes in Kenya designed to assist the informal sector (termed jua kali officially since May 1988). There are specialist studies on technology in the jua kali sector, credit to the jua kali, meetings on NGOs and the jua kali. And there are few donors, bilateral or multilateral that would not claim to have a portfolio of projects on the informal sector.

Of all the many actors involved in assisting us, we would like to name just a few of those who have taken a strong personal interest in our work, and helped to get it started and sustained us while we sought to get it written up in Kenya and Scotland. In the Institute for Development Studies in the University of Nairobi, we should acknowledge the role of the previous director, Dr. Kabiru Kinyanjui (now of IDRC), and the present director, Dr. Njuguna Ng'ethe, whose own professional interest in the jua kali sector is well known. In the Ministry of Technical Training and Applied Technology, there was considerable support for the research from the permanent secretary, Mr. Hiribae, as well as many of his staff. J.P. Mutiso, L. Omenda and S. Muthiani were extremely helpful within the Jua Kali Development Programme, and a special relationship with the work has been maintained by John Owigar since its initial conceptualisation.

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## Part 1

CHANGE AND DEVELOPMENT IN KENYA'S POLICY ENVIRONMENT,  
1970-1990

## Introduction

In discussion of Kenya's informal sector - now almost universally called the *jua kali*<sup>1</sup> sector - there has always been a rather marked division between the abundant literature analysing the needs and requirements of the sector, and any sense of the sector's own views about its development and priorities. Of course, *jua kali* workers have frequently been asked about their length of business experience, their desire for training, for loans, for equipment. Indeed with the vogue for micro-enterprise projects in Kenya, it is likely that several workers have responded to similar questionnaires more than once. But still rare are the voices of the *jua kali* artisans themselves.

It seems likely that this will change, and that shortly it will be much more possible to know what *jua kali* themselves think of the very many policies that have been debated and proposed for their improvement. One of the most significant changes in what is commonly termed the enabling environment, therefore, has been that set of initiatives that has encouraged the formation of *jua kali* societies, associations, and relationships amongst such organisations. The emergence of a *jua kali* voice, and of what might be termed a *jua kali* constituency, separates the 1970s and much of the 1980s from the years 1986 to 1991.

## The Kenyanisation of the Informal Sector

Although there have been countless papers written on Kenya's informal sector since 1972 when it first swam into public recognition with the publication of the ILO's employment mission to Kenya in 1972, it could be argued that

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<sup>1</sup> *Jua Kali* - from the Swahili words for 'harsh sun' - refers to the fact that many of the sector's enterprises operate out of doors with little or no shelter.

the concept of the informal sector remained relatively remote from ordinary Kenyans, and was really a technical term restricted to academics, planners and consultants. Indeed, the ILO Report (*Employment, Income and Equality*) with its very important chapter on the informal sector in Kenya had much more influence on the development community internationally than on Kenya. Undoubtedly, there was a certain discernible impact on subsequent Kenyan development plans (for example, 1974-78, and 1979-83), and there was no shortage of academic papers on the informal sector with explicit policy implications, produced by the University of Nairobi's Institute for Development Studies. But at this stage during the 1970s, the writing and debates on the informal sector were predominantly carried on by foreign academics and planners attached to Kenya. Many of these were well-known, and played an important role in internationalising debate about the informal sector that was derived from Kenyan data. They would include: Frank Child, Walter Elkan, G. Farago, W. J. House, S. Kapila, R. Kaplinsky, A. C. Killick, Kenneth King, Per Kongstad, Steve Langdon, Colin Leys, Ian Livingstone, G. B. Norcliffe - to mention only a few of those who wrote at that time on the informal sector.

There were local scholars contributing to some of these debates in the 1970s, but it was not really until the 1980s that Kenyans were taking lead roles in research and writing about the informal sector. In many cases such research was still sponsored by external agencies. Indeed there were many fewer local research funds in universities in Sub-Saharan Africa in the 1980s than in the previous two decades; hence external research funding and research priorities were in some ways even more dominant in the 1980s than in the 1960s and 1970s. If there were many more Kenyans writing on the informal sector in the 1980s, this could just be a pointer to the topic remaining important in agency agendas. This is certainly the case, and we shall return to this widespread external interest shortly but the critical Kenyanisation of the informal sector concept was taking place elsewhere than in academia.

First, it had been happening in the education system. The progressive orientation of the schools towards self-employment had been underway from as early as the ILO Mission to Kenya, but few now would recall that the Mission had encouraged the preparation of students for 'available employment opportunities, especially in the rural areas and in the informal sector' (ILO, 1972, p. 22). By the time a major education commission had reported in 1976, the implications of the employment situation for the content and structure of basic education was much more obvious. In fact, this National Committee on Educational Policies and Objectives was unusual in quite explicitly commenting on self-employment and the informal sector, and in seeking to think through the argument that as 'most of income-earning opportunities will have to be based on self-employment, education and training should increasingly equip a large majority of Kenyans to be self-employed' (NCEOP, 1976, p.38). But it was not until the early 1980s that this thinking crystallised in a new organisation of education with a much heavier emphasis on skills for self-reliance.

The new system, called 8-4-4 after its 8 years of primary, and 4 each for secondary and university, was inaugurated in 1985, with all sorts of subjects thought to be relevant to enterprise, self-employment, and self-reliance. What differentiated Kenya's 1985 initiative from the much older 'Education for Self-reliance' of its neighbour, Tanzania, was that the latter was, rightly or wrongly, interpreted as education for containment in the rural areas. Kenya, by contrast, saw a more skills-based education system, emphasising scientific and practical knowledge at every level, as feeding directly into self-employment, salaried employment or further training (Kenya, 1984a, p.1). Within a year of the education reform a new much more explicit ideology of self-employment was emerging through the many new curriculum materials and texts. It sold skills for self-employment and micro-enterprise quite openly on the basis of profit. One of several 8-4-4 subjects taken by all primary standard six

children was business education, and pupils were receiving the following messages as they tackled units on business opportunities, and on 'raising money to start your own business':

In other words, when you finish school, the question should not be: WHO WILL EMPLOY ME BUT HOW WILL I EMPLOY MYSELF? In many cases, you will find that self-employment is more paying than being employed by another person. (Gatama, 1986, p.66)

The thrust of the 8-4-4 reform was powerfully supported by the Presidential Working Party on Education and Manpower Training for the Next Decade and Beyond, which was set up in August 1985, and had its Report eventually turned into a Sessional Paper in 1988. This not only emphasised the theme of a vocationalised and 'a more practically oriented curriculum at every level of the education system,' but also, and more crucially, the importance of the education reform being embedded in a culture of enterprise within the wider economy (Kenya, 1988b, p.18). It was entirely appropriate, therefore, that the skills from school should be linked to larger technology and enterprise policies:

However, the Working Party considers that in order to utilise these skills properly and enhance self-reliance, it is necessary for the country to develop indigenous technology and small scale industries, train people in entrepreneurship skills, to expand post-school training and support activities in the informal sector of the economy to promote self-employment. (Kenya Government, 1988a, 15)

Unlike the earlier images of the informal economy as consisting of shoeshine boys, hawkers, and petty traders, it is interesting to note that even in a document that is primarily concerned with education, there is an awareness that the informal sector is one of the sites of indigenous technology, and one of sufficient consequence that it should be recommended as the target for technological research support (Kenya 1988b, p. 1).

In summarising the significance of shifts in the environment of schooling and training, it must be acknowledged that school reforms, like reforms in the environment



micro-enterprise more generally, cannot rapidly have a decisive effect. For instance the children who started the new system in 1985 only leave standard 8 in 1992. It will not be until 1996 that the first student exposed to the full eight years of new primary and four years of secondary education will emerge. Of course, as the main changes in primary school take place in the upper four years, there are already in the labour market many young persons who have been exposed to the reforms, but did not proceed to secondary school. Many of these were beginning to appear in the workshops we were visiting in 1989 and 1990.

One part of the Kenyanisation of the informal sector concept was the process of making it ordinary and acceptable (and examinable) to learn about business opportunities, credit, banking, book-keeping, and a wide range of practical and scientific activities, as part of education for all. An equally vital aspect of recognising the informal sector related to its place in political and economic thought. There are almost 40 years lying between the first positive identification by the East Africa Royal Commission (1953-55) of the urban settlements as 'important centres of African trade' and the *Sessional Paper no. 1 of 1986 on Economic Management for Renewed Growth* which unequivocally put the informal sector at the heart of a whole series of employment, technology, and investment policies (EARC, 1955, p. 208; Kenya 1986). The Royal Commission put the enabling environment on its agenda by declaring that these clusters and settlements should be seen positively from a market perspective: 'to clear these areas of their inhabitants would be to destroy what, in some areas, constitutes the only development of African commercial enterprise' (EARC 1955).

This cluster of issues - recognition of local initiative, harassment, urban planning norms - have never been far from the discussion of the informal sector over much of this period. They were first captured in an extended and coherent fashion by the ILO mission, and framed into a set of positive recommendations that were designed to reduce harassment,

increase legality, develop technology, sub-contracting and linkages. These, along with various suggestions for credit and extension services, have been the stock and trade of many of the subsequent reports and Development Plans, but implementation has been extremely hesitant (Aleke-Dondo, 1991). Many of the recommendations have been exemplary, but we would suggest that they did not really reach the political agenda, and they most certainly would not have come to the attention of informal sector artisans themselves.

The crucial process of political recognition at the highest level can be dated to November 1985, when the President visited one of the informal sector concentrations in Kamukunji, near the football stadium. This site had for years been frequented by blacksmiths and tinsmiths. Now, apparently, by chance the President had stopped, and in a highly symbolic act promised sheds to shade the workers from the sun. The jua kali workers were going to get a degree of physical and political protection. Presidents, whether in Kenya or elsewhere, visit all kinds of constituencies and special interest groups on a one-off basis. What was intriguing about the events of late 1985, and may suggest it was not a chance occasion at all was that he was back in the area just two weeks later, visiting both the tinsmith/blacksmith concentration in Kamukunji and also the agglomeration of automobile and lorry mechanics in nearby Gikomba. This time the headline read that he was organising a Christmas party for the mechanics. Furthermore, the building of sheds for them would be the beginning of their fuller incorporation into the national economy:

Once the sheds were completed, the mechanics would be properly organised so that their skills could be harnessed to the mainstream of the country's industrial development (*Kenya Times*, 20.11.85).

By late 1985, however, the series of meetings and consultations that was to lead to the influential Sessional Paper on Economic Management and Renewed Growth was already well underway. Drafts had been discussed in cabinet and had presumably had the benefit of the President's reactions. It

is not impossible, therefore, that the apparently sudden visit to the jua kali industries was quite deliberate - especially as the President was back a third time, in early December, on this occasion advising the mechanics to form themselves into sizable groups and look for shelter so that they could be easily helped by the government'. On the 8th of January 1986, the President had paid a fourth visit to the area, and the Gikomba mechanics been told of the very possibility that the ILO mission had talked of 14 years earlier: that government vehicles would be repaired in the informal workshops of Gikomba. Within a month the President was back, this time to say that 'the sheds would be provided free and title deeds given to the allottee' (*Kenya Times*, 1986).

In just over a three-month period, the President had touched upon some of the key generative themes that would constitute part of jua kali policies over the next five years: sheds; organisation and the formation of groups; the possibility of security of tenure; the possibility of subcontracts, including from government; the incorporation into national industrial policy and planning. This series of visits, therefore, accomplished a good deal at the level of making the informal sector visible, newsworthy, and potentially a source of political patronage. It may in fact have been sparked by the preparations for the Sessional Paper. But one result was surely that the Sessional Paper in 1986 was itself taken more seriously, since by the time it appeared, the rather negative term 'informal sector' had been translated into actual locations, persons and jobs that could be readily visualised. Moreover, the local term, jua kali, greatly assisted the Kenyanisation of the informal sector concept.

There is an interesting piece of sociolinguistic research to be done on the layers of meaning added to the term, jua kali, over the last decade. Originally it referred to hard work done predominantly by male blacksmiths and metal workers out of doors. It seems to have been extended to car and lorry mechanics next which meant that many lower and middle income clients began to appreciate jua kali skills. The term took on

overtone of creativity and improvisation, and stories abound of how jua kali mechanics saved the day when a car broke down far from a regular garage. Finally, the term broadened to stand not just for a particular form of micro-enterprise, but for a Kenyan African version of capital accumulation to be contrasted with that of the multinationals or Kenya Asians. It came to be associated with Kenyan technological capacity, and with a moving frontier of products that the jua kali had succeeded in making. It is in this spirit that the headline would declare: 'Jua kali man branches into wheel rims in Kariobangi garage' (*Daily Nation*, 1986). Or the sign in front of a jua kali stand at the Nairobi Show would claim: 'It was jua kali type people who helped rebuild Germany after the last war.'

For a nation struggling with structural adjustment and with the need to fight its way out of crisis by hard work, there is a sense in which people can say 'We're all jua kali nowadays.' The term, therefore, has been important not just in Kenyanising the concept of informal sector, but in communicating a feeling that it is the informal sector that is the ordinary economy in which the bulk of Kenyans gain their livelihood. It is not the informal sector that is somehow special and extraordinary, but the formal sector, which encompasses such a small portion of the economically active population. Increasingly it has been felt that it is the jua kali economy that provides the bulk of people with their work, health, law, housing, and their training (King, 1987).

It is this spirit that is captured also in the 1986 Sessional Paper, in which the informal sector came in from the heat, in policy terms. Many of the basic needs - for food, shelter, clothing, transport - are translated by a simple arithmetic into a mass of small-scale industries serving rural or urban areas. For instance a government building programme by the end of the century would be constructing 100,000 units, requiring in turn, 700,000 doors, more than a million windows, and more than 56 million feet of piping. The sheer magnitude of these requirements suggests a multitude of

small industries in preference to massive centralised firms in the major centres' (Ryan, 1987, p.6).

The 1985 paper synthesised a great deal of scattered thinking about the informal sector but tied it in, in a way that had not been attempted before, to macro-economic policies, employment policies, demography, and human resource development:

Obviously, the modern, urban industrial sector cannot be depended on to employ much of the growing work force. To employ people on small farms, in very small-scale industry and services, or in self-employment takes only a fraction of the \$16,000 per worker required in the modern sector. Clearly the bulk of the work force will have to be productively employed in these activities (Kenya 1986).

In a way, the Sessional Paper sought to change the metaphors for thinking about the informal sector--from that of the employer of last resort..the sponge for mopping up urban migrants.. the objects of harassment (and therefore of pity) to an image of potential, technological capacity, of 'graduation' from small and informal to modern wage sector, of aggressive entrepreneurship (Ryan, 1987). Part of this new and more confident approach to the informal economy was marked in the next Development Plan which had a whole section on the 'Development of small-scale and jua kali enterprises' (Kenya, 1989a). It was a mark of the Kenyanisation and normalisation of the concept of informal sector that the words 'jua kali' were used straight, without any translation.

Towards a comprehensive national strategy for small enterprise

The 1986 paper had not only changed the negative and apologetic metaphors for the informal economy; it had also sought to catalyse the main actors - government departments, external aid agencies and non-governmental organisations (NGOs) - in schemes that would address some of the credit needs of the informal sector. The moment seemed auspicious for many of the different threads to be drawn together. The year after the Sessional Paper, the ILO and UNDP were asked to

assist what would basically be a Kenyan project to produce a national small enterprise strategy. Termed initially the 'Centre Project,' it avoided the independent consultant route, but was determined wherever possible to use local Kenya-based capacity for its research, planning and advocacy activities. Between 1987 and April 1991, the Centre Project (which turned into the Small Enterprise Development (SED) Policy Project in July 1989) maintained something approaching a national focus and momentum on small-scale and micro-enterprise.

Unlike the many earlier academic papers on the informal sector, the series of reports associated with the Centre Project and SED were all focused on aspects of what came to be called the 'enabling environment' for small enterprise. What the project director, Robert Gichira, called a road map of small enterprise issues in Kenya was laid out. Who was supporting small enterprise? What credit mechanisms existed? What export potential? What entrepreneurship development needs? What subcontracting? At one level this initiative offered a state of the art account of present problems and present provision of support to small enterprise. At another level, it illustrated a highly participatory strategy for brainstorming the problem and developing a plan of action for each of the main issues facing small-scale enterprise.

Now, two months after the end of the second phase of the project, it has certainly achieved a great deal in networking and information exchange across many of the key institutional actors who have actual or potential responsibilities for small enterprise development, including banking and credit institutions, local and international NGOs and intermediary organisations, relevant ministries and departments, and finally the private sector itself. It was certainly a very considerable achievement to have produced the three-part series of Government of Kenya Reports on Small Enterprise Development in Kenya:

*A strategy for small enterprise development in Kenya: towards the year 2000. Part One (May 1989)*

*Small enterprise development in Kenya: Programme of action. Part Two (May 1989)*

*Small enterprise development in Kenya: Project ideas. Part Three (May 1989)*

The most remarkable aspect of the collaborative strategy is the detailed specification of actions to be undertaken by government ministries and by financial institutions. There can be few responsible bodies with even indirect responsibilities for enterprise that are not explicitly identified with particular actions. These include the Ministries of Finance, Technical Training and Applied Technology; Planning and National Development; Energy; Local Government; Public Works; Research; Science and Technology; Tourism; The Treasury; Lands and Physical Planning; Livestock; Industry and Commerce; Information and Broadcasting; Manpower Development; Education; Culture and Social Services; Attorney General; Directorate of Personnel Management; Directorate of Industrial Training; Office of the President; Women's Bureau; Kenya Association of Manufacturers; Central Bank; Commercial Banks; and Kenya External Trade Authority. Beyond these major institutions, there are a host of more specific organisations and groups of institutions such as Chambers of Commerce and NGOs who are also named as having particular responsibilities for action. Most of these recommendations have not just been thought up, but have been discussed in principle with most of the main actors. The actions fall into three main areas: those relating to the enabling environment; those relating to investment and finance; and those concerned with promotional programmes and with the culture of enterprise.

The flavour of these is worth communicating, since unlike many other recommendations about small and micro-enterprise which have been sector-specific, they see small enterprise as inseparable from macro-economic reform. Hence some recommendations are designed to reduce the comparative advantage of capital-intensive ventures, reform taxation,

alter the laws on land and licenses. Others are very deliberately targeted at equal opportunities for women entrepreneurs, or at encouraging particular training institutions to become more enterprise-conscious. An example or two:

Therefore, the Treasury, Central Bank, Development Financial Institutions, and Commercial banks shall allocate extra budgets for professional career and staff development, including women, to facilitate Small-scale Enterprise (SSE) lending. This development shall also enable the government to gradually diminish direct lending to SSE by ministries and to transfer these functions to the banking system. (Kenya, 1989c, p.27)

The Ministry of Technical Training and Applied Technology will establish a Training Division to develop and execute a strategy and programme on training related to i) introducing more entrepreneurship in vocational and technical training institutes; ii) making technical training more market-oriented; iii) making more technical training opportunities available to women. (Kenya, 1989c, p.38)

By early 1990 there had emerged also from the SED activity a draft *Sessional Paper on Small-scale and Jua Kali Enterprise*. More than a year later it is still not clear whether this whole extraordinarily creative process of interministerial collaboration with private sector, donor agencies and NGOs, was going to result in a formal Sessional Paper. Indeed, it is also not clear whether the forced eviction of agglomerations of jua kali and the destruction of their premises in November 1990 will have the effect of slowing down or even halting what looked like a very lively movement in their favour. These removals of artisans were more dramatic in Nairobi than elsewhere, but there were parallels in other provincial centres.

**Support to small and micro-enterprise from donor agencies and NGOs and their impact on jua kali entrepreneurs**

Even if the onward march of central government policy since 1985 may perhaps have faltered, hopefully temporarily the same period has witnessed a parallel very positive set of



actions by multilateral and bilateral donors, by NGOs, and by business associations. Partly because of the impetus provided by the President in 1985, the Sessions Paper in 1986, and the Centre-cum-SED project from 1987 to 1991, there is in fact a good deal of survey material available in the form of feasibility reports for agencies. The timing of these reports highlights how they are clustered in the very late 1980s and 1990s. In several cases, the main purpose was to decide on a programme for a particular agency, but a survey of who else was doing what was seen as a preliminary. Amongst some of the more useful reports and reviews would be the following:

World Bank, 'Section III. Small-scale manufacturing in Kenya' from 'Kenya Industrial Sector. Policies for Investment and Export Growth' vol. ii. Main report (Washington June, 1987)

Mauri Yambo, 'Reconnaissance of Jua-kali support-activities in Kenya' (DANIDA, September 1988)

Aleke-Dondo, C. and Gichira, R. 'Institutions assisting small-scale enterprises in Kenya' (GOK/ILO/UNDP Centre Project, September 1988)

David Wright, 'Proposals for British Aid to small-scale enterprise development in Kenya' (ODA, London, February 1989)

International Fund for Agricultural Development (IFAD), 'Kenyan special programming/general mission on small-scale enterprises' (IFAD, Rome, April 1990)

Management Systems International, 'Evaluation of the USAID/Kenya private sector program.' Final report and annexes (USAID, Washington, December 1989)

USAID/Kenya, 'Private enterprise strategy statement' edition 2, September 1985, Nairobi.

Ondiege, P. and Aleke-Dondo, C., 'Assistance policies for the informal sector in Kenya' (Nairobi, 1990).

C. Aleke-Dondo, 'Survey and analysis of credit programmes for small and micro-enterprises in Kenya' (Kenya Rural Enterprise Programme for ODA, Nairobi, May 1991)

In addition to the very large numbers of projects

programmes and proposals described in some of these surveys and missions, there are many more that are related to other donors not mentioned above. Because of its special role in supporting the Centre/SED project, UNDP has acted informally to liaise amongst the donors concerned with micro-enterprise, and has dedicated a good deal of its entire Kenya programme to the support of policy development and projects in the small enterprise sector. Taken together, the donor support is wide and varied, but has been subdivided into the following programme interests: policy and research; credit and NGO support; training and youth polytechnics; export promotion; infrastructure and services; support to Kenya Industrial Estates.

The list of both direct and indirect agency projects involving the jua kali seems so extensive from reviewing the documentation and discussing their plans that it is easy to forget that from the perspective of the jua kali themselves there is very little knowledge of what is being done, and what is available. For instance, in the very useful inventory of credit programmes for small and micro-enterprise carried out Aleke-Dondo and Ondiege, it is noted that despite the apparent range of programmes, less than 10% of the informal sector entrepreneurs know of their existence (Aleke-Dondo and Ondiege in Aleke-Dondo, 1991).

Of the many developments mentioned in these few pages, the only ones likely to be known of by jua kali (and even then mainly by jua kali in Nairobi) are the shed-building programme launched as a result of President Moi's visit to Kamukunji and Gikomba. Over the six years since that event, sheds have been built in small groups in different provincial and district centres. The second aspect of jua kali development increasingly likely to be known to some of the informal sector is the formation of jua kali associations and societies. This too derives from the encouragement of the President to organise and form them, in order to get access to sheds and loans. A third development that may have been noted in the informal sector was the much publicised scheme to offer jua

kali loans by the Kenya Commercial Bank. Apparently several thousand applications were made for these small loans, but in the first phase (up to August 1988), a maximum of 200 successful applicants were processed.

One further development in the informal sector is increasingly likely to be known about by the jua kali, and that is the emergence of a ministry concerned with Technical Training and Applied Technology (MTTAT). This ministry was separated from the Ministry of Education and given responsibility for all post-school vocational training and also for the new jua kali development programme. Since the Ministry was only renamed in March 1988, there has not been much opportunity to follow its activities. But because of the location within it of the Jua Kali Development Programme, it has become known informally as the 'Jua Kali Ministry'. This too may be regarded as an important part of the Kenyanisation of the informal sector concept discussed above.

The Ministry has also, within the constraints of limited funding and just a handful of staff, taken on responsibility for publicising the jua kali sector through exhibitions and training seminars, and through co-ordination of the various jua kali associations that have been formed in the past several years. For the first time, these associations offer a mechanism whereby the donor readiness to support jua kali can become more widely known and equitably disseminated. Prior to their formation, there was really no representative for jua kali voice. Quite suddenly, this exists, and we shall examine its consequences further in the text. But in terms of the direct action of donors and NGOs supporting the informal sector, the emergence of associations has made it possible to relate provision directly to the clients thus the ODA-supported equipment-building courses could be advertised through MTTAT to 30 jua kali associations. Equally, ODA and DANIDA have been able to deal directly with Mombasa Jua Kali Association in discussing possible projects (ApT, 1991; Stevens, 1990; DANIDA, 1990; Gatsby, 1990).

It would not be surprising if the individual jua kali and the associations did not know a great deal about the donor agencies, since several of them have used their funds for on-lending to NGOs based in Kenya, and it is these latter which have come directly in contact with the jua kali. The range of these is very great, and with them too, as with government's SED policy it would be possible to chart their progressive interest in working with jua kali. With a few NGOs, e.g. National Council of Churches of Kenya (NCCK), their work with micro-enterprise goes back to the mid-1970s, but with the great majority of NGOs providing credit and other services to the informal sector, their programmes started in the mid to late 1980s. These parallel pathways of the government, the main donors, and of the NGOs in their jua kali policies mean that momentum is being maintained. In the longer study, there is detailed discussion of donor and NGO policies and projects, especially in the period that coincides with new governmental attention to the informal sector.

#### Implications of developments in the enabling environment for the present study

The emphasis within this brief account of the history of the policy environment has been upon the Kenyanisation of the informal sector, and on the development of a Kenya voice to articulate the concerns and priorities of the jua kali. It will be appropriate here to signal what particular aspects of this almost 20 years of history are of most importance to our own study. In a word, we may say that the emphasis in our research is upon change over time, upon detecting shifts and patterns: in movements from employment to self-employment, in the development (and 'non-development') of machinery and technology, in the growth of income and capital, in the 'feel' of a particular jua kali location whether in Nairobi or Central Province, in the changing aspirations of those we have talked to. We may underline a number of consequences of this approach.

### Desegregation of the Informal Manufacturing Sector

In many of the studies of the informal sector, small-scale manufacturing is discussed as if it were a single category. Our own approach has been to take four trades and see how much they differ in their basic characteristics. Two of these trades (candlework [tinlamp-making] and metal work) received very close attention in the earlier study of Kenya's informal sector, and two (woodwork and tailoring) were additions.

### Dynamic versus one-off approaches

In the bulk of surveys of the informal sector, whether in Kenya or elsewhere, one-shot interviews produce useful tables on many key characteristics, at that point in time (Central Bureau of Statistics (CBS), 1977, 1988; Leiser, 1987; Aboagye, 1986; Ng'ethe et al., 1989 etc.). To the extent possible, we have sought to give some sense of movement, as people moved from job to job. Our interest is in career pathways, both in our case studies (which will appear in the full, book-length report) and in a selection of the tables produced here.

### Case study work of change over time

In the fuller volume, there will be an attempt to review some of the elements that have affected particular artisans who were first studied in the early 1970s. Some sense of the range can be indicated by pointing out that the young man on the front cover of the *African Artisan* in 1977 has since had a son whom we were able to interview on his attitudes to the new 8-4-4 education reform, with its attempts to prepare pupils for self-employment. All of those who were the subject of closest scrutiny in the early 1970s have been revisited but we have sought to examine also the career paths of most of our new sample. Again, it has proved important to desegregate by trade. Hence, some of our early 1970s tinlamp-makers (candlework) can be found in 1991 practising their trade under almost the same lean-tos, of polythene sheets and wooden

stakes, as they were sheltering from sun and rain in the 1970s. In one or two cases they have been joined by their sons. Others from our old and new sample in the metal work trades can now be found in stout, stone buildings with great steel gates. Not surprisingly, the pattern is not uniform. One or two are still living on small sub-contracts, while the most successful has virtually developed a fully mechanised small factory production.

#### 'Graduation' in education, income, and in technology

The question of firm transformation, in size and in technological capacity, has been of concern to those involved in Kenya's Small Enterprise Development project as well as more widely (Liedholm, 1990). There are several initiatives underway (Undugu, ApT(ODA), UNIDO) to intervene and improve the technology of jua kali entrepreneurs. Our own explorations with entrepreneurs have sought to identify what this 'technological confidence' consists of. What proportion of our sample have, over what period of years, graduated technologically? We expect that some of our measures will seem rough and ready, but, when supported, and illustrated by case study material, they may prove of use to those agencies and NGOs who are making technology interventions.

#### Different product markets within the informal sector

Apart from desegregation within manufacturing, it has also proved necessary to analyse the range of technology and income within particular trades. This is necessary because it is still possible to pick up even in the very recent literature the notion that the informal manufacturing sector is concerned with 'supplying rough-and-ready goods for the mass market, while leaving the often much smaller quality market to the formal sector' (Livingstone, 1991). The fact is that in a number of fields the informal sector is making high quality goods, including, for example, weighing scales which the Kenya Bureau of Standards actually has to inspect and confirm.

#### The 'feel' of informal sector locations

The 'feel' of informal sector locations is almost totally absent from much of the writing on the informal economy, including from most of the writing on Kenya. In the early 1970s, there were only a handful of African artisans involved in the manufacture of machines for cutting, shaping and punching mild steel but this is now commonplace. And in the tightly packed Gikomba streets, there are now significant numbers of African entrepreneurs operating from permanent buildings, and in whose small offices one can sit and discuss business, surrounded by the same warnings about asking for credit as are commonplace in Kenya Asian firms. Meanwhile outside on the wasteland in front of the stone buildings, and perched precariously over the Nairobi River are a dense crowd of new generation artisans. Unlike their counterparts from the 1970s, they use power tools all of which have been purchased from the informal sector. Like the 1970s jua kali, however, they had no security of tenure, and despite the new attitudes towards the sector, they have all been swept away, even in the few months since we carried out our research. There is a different pattern in our rural research site and also there is a shortage of land, but the striking thing is the diversification of commerce and industry over the period of 15 years.

#### The building of an industrial society in Kenya

At the end of *The African Artisan* we stated that the real problem for the informal sectors of the East African region, is their lack of vertical integration into the next technological level (King, 1977, p.206). The jury is still out on many of the questions relating to the spread of technological capacity in Kenya, but there seems little doubt that there has been a dramatic increase in technological confidence, very little of it connected to the growth of government, agency or NGO interest in the jua kalis. To the extent that many jua kalis have managed to succeed without any support (and even in the face of hostility), it is certain to

welcome news that the environment is at some point in the not too distant future about to become 'enabling'.



## Part II

## METHODOLOGY

At the core of the methodology in the present study was the notion of analysing change over time in the informal sector. This approach was driven by the fact that ODA had funded one of the present authors to analyse certain aspects of the informal sector in the period 1972 to 1974. (King, 1974, 1975, 1977) That study had examined in considerable detail the development of technologies in particular trades, especially metalworking and tin-lampmaking, and had done so both for a part of Nairobi and for a village in Kiambu District in Central Province. The study had examined these trades historically and also through detailed case study work on particular key individuals associated with them.

Seventeen years later, at the end of the 1980s, a brief exploration indicated that most of the individuals King had worked most closely with were still in business. But in the meantime they had been joined by sufficiently large numbers of other workers that it made sense to broaden the scope of the study. It seemed appropriate not only to revisit the very trades that had been the focus of the 1970s study, but also to attempt to situate these trades within a somewhat wider perspective on the informal economy.

The reason for this different approach is related to the very different environment in which the informal economy is operating now. It has been necessary to pay some attention to the many different actors on the informal sector stage. There is scarcely an NGO that does not have some programme or project for the jua kali. Equally, most donor agencies have activities in support of micro and jua kali enterprise. It has therefore been essential to interview both the donor agencies and some of the major NGOs and other intermediary organisations. In the early 1970s there was certainly no government body responsible for jua kali development; whereas now, the popularly named 'Jua Kali' Ministry (Ministry of Technical Training and Applied Technology) was another

institution whose views and policies clearly needed to be taken into account.

For the main body of the research, it was decided that pilot work should be done first to gain some sense of the way that the informal sector was currently developing. Thus in July 1989, almost sixty entrepreneurs were interviewed, both in Nairobi and in the Kiambu village of Githiga, which had been the focus of the 1970s study. From this exploratory work, a checklist was developed which was then used with a total of 67 informal entrepreneurs distributed across four trades, in both rural and urban areas. In addition to the two original trades it was decided to add one trade (tailoring) in which women predominated, and a further trade (woodwork) which had been growing rapidly, especially in the urban area.

Between September 1989 and April 1990, considerable detail was gathered on this group of entrepreneurs, and preliminary analysis of data carried out. In August of 1990, further fieldwork was done in order to explore the relationship between the core group of interviewees, and the much larger constituency of jua kali workers which the Ministry of Technical Training and Applied Technology (MTTAT) was seeking formally to register. Through the Ministry records it was possible to select a parallel group of jua kali in tailoring, metalwork, and woodwork against whom the core group could be compared on a series of basic criteria.

In late August 1990, a seminar was held in the Institute for Development Studies, University of Nairobi, in order to discuss some of the initial findings from the research. Unusually, this seminar was attended by some of the leaders of jua kali associations with whom we had worked. Between October 1990 and April 1991, it was decided to increase the size of the core group interviewed, from 67 to 100, and at the same time to carry out follow-up interviews, especially on the urban sample, a year after they had been first visited. The result was that a significant number of the key informants within the core group of the study had been contacted at least three times, and a smaller group talked to formally and

informally ten or more times.

In terms of the principal focus of the interviews and site visits, several items received particular emphasis. These were the detailed history of experience in employment (whether in the formal or informal sector), the anticipation of self-employment, the transition to self-employment, the history of production in self-employment. In addition, there was considerable stress on the shift (or nonshift) in product development and technology. One of the more challenging tasks was to try to investigate what 'technological confidence' consisted in. To understand the context of this we felt it necessary to explore the sourcing of the particular technology, and the network of people who had mastered it. Often this meant that we talked to many more people than are represented here in our basic sample of 100.

As we have said, our work was centred, in the same village in Central Province that had featured in the *African Artisan*, and in Nairobi. The bulk of the entrepreneurs were drawn from in and around Gikomba, just a few hundred metres from Kombo Muniyiri Road where several of the 1970s machine makers had operated from waste ground (King, 1979). The candlemakers in 1989 and 1990 were in Bahati, about a kilometre or less distant; some of the metal workers were over near Kamukunji, also a kilometre away; some of the tailors were also near Gikomba though some were in other market areas nearby.

In the urban part of our work, the core was certainly Gikomba. It came to represent one version of what we call 'the building of an industrial society'. Within a square kilometre, and presided over by the headquarters of the Central Organisation of Trade Unions (which is unlikely to have a single member affiliated to their unions in the whole area), there is an intense 'central business district'. There are still 2-3 Asian engineering workshops and an Asian furniture factory within this area, but the bulk of both the older (once Asian) buildings and the newer African ones are given over to manufacturing, though there is a considerable

scattering of hardwares, well integrated into the needs of the manufacturers.

Beyond the permanent buildings, and tightly packed together, there are dense concentrations of woodworkers, most of them mechanised. At the time of our interviews they assured us that they were now secure; the informal sector now had protection at the highest level. Within six months most of them had been swept away, and hence the sites illustrated by our photographs of machinery and workshops are now virtually empty.

The research site in Githiga, Kiambu District, has been changed a good deal less over the 17 years. But where there was just one major metal working industry with a few hand-operated machine tools in the 1970s, there are now a whole series of metalworking industries, some of them with lines of machine tools. There are now drycleaners, a paint factory, many new tailors, and the original metal working industry is electrified and greatly expanded.

Our principal informant during this research, Paul Kairu, made his workshop available to us for discussions in Gikomba, but he lived in Githiga. In the earlier research, John Nene had played a similar role; he too had lived in Githiga, and had worked in Nairobi. In this particular version of the report, the emphasis is on a presentation of some of the principal quantitative data. The fuller version (to be published by James Currey) will draw much more heavily on the qualitative detail of the interviews, as well as illustrating by photographs from 1973-5 and 1989-90 some of the comparative dimensions of change in technology and production within the same geographical areas.

Before looking at some of the findings, it may be useful to give a thumbnail sketch of the trades we are looking at. It is important to communicate a little of the feel of the trade, if we are to understand the scope behind the bald word 'candlework', or any of the other trades. Candlework involves the making of usually just a single product, a tin lamp with a wick, with paraffin for fuel. The entire product is made from

scrap tins, which need to be cleaned, recycled, cut, shaped, soldered. All is done by handtools, with the artisans squatting on rough seats round an open brazier in groups. No candlemaker in Nairobi is operating out of permanent stone premises. The work is highly specialised but monotonous, and it is integrated, in the sense that tin-collectors bring the scrap tins and the wholesale buyers from up-country may come regularly to buy 50 or 100.

The metalwork is highly diversified, both in premises and products. Some entrepreneurs are operating out of permanent stone buildings, with their finished products spilling out on to the road in front. Many different kinds of machinery are made: Flour mills, fodder cutters, coffee grading machines, weighing scales, and others. Also manufactured are large runs of small items for the building industry, and especially a few larger items such as steel windows and steel doors. Not all machinery-assisted metalwork is out of reach of the hot sun. There are some conglomerations of metal workers whose machinery is stuck into the open ground in a waste area. These have no offices, no sign board but they will make large runs of some of the same items made in the permanent areas. Electricity will be a problem.

Woodworking too is very diversified, and where it used to be almost universally a few handtools, a clamp or two, and a bench, there are now many different kinds of locally made woodlathe and other bench and hand-saws. In combination these rather basic machines have revolutionised the design and quality of furniture, especially in Nairobi. Like metalwork, some woodwork is indoors and some outside in the open.

Tailoring is widely dispersed, in market centres, in tiny rooms where a couple of machines can be lodged. The common pattern would be for a firm to have two or three machines and the same number of workers. Most of the work is done to order, but there is always plenty also on display. The basic equipment may differ a little from shop to shop, with some using more specialised electric machines, and others using the treadle. But the real competition with tailoring

comes from those huge barrows piled high with 'dead whitemen's clothes', as they put it in Ghana. There is a huge area for these second-hand clothes just near Gikomba.

These then are the four trades we are examining. We now turn to look at some of the dynamics of these micro-enterprises.

## Part III

## MICRO-ENTERPRISE DYNAMICS

This section looks at firm-specific and sector-wide dynamics of the informal sector. Firm specific dynamics refers to the entrepreneurial and firm evolution of individual firms from inception to date. Within firm-specific dynamics we shall look at entry into the sector, financial attributes of firms, and entrepreneurial managerial decision capabilities in the sector. Sector-wide dynamics refers to changes in the sector in the last two decades.

## Sector wide dynamics of the informal sector

This section outlines some of the major changes in the sector in the last decade. Lack of time series survey data makes it very difficult to do this. Therefore we shall only attempt to highlight major changes drawing on our experience of the early 1970s and of more recent changes.

Overall, the informal sector has apparently shown progress by all standards of sectoral performance. The measures of sectoral performance include: output, employment, technological contributions, self sustainability, and foreign exchange generation.

Kenya statistical records put the growth rate of the sector at about 11% annually (Kenya Government 1989a). The current size of the informal sector is estimated at 250,000 firms nationwide. With this level growth in the number of firms, there has been a corresponding increase in output and employment by the sector. The composition of output has also changed drastically. Up to the mid 1980's, the woodwork and tailoring sectors produced for the low income only, and the metalwork industry produced rugged manual machine tools and simple consumer durables such as bicycle carriers and hoes as well as bolts and other basic items for the building industry. This has changed for each of the above subsectors. The metalwork industry currently produces a wide range of electrical machinery for itself and the woodwork industry. It

also produces a variety of steel fabrications and other building parts, and machinery for the agricultural service sectors. Examples of these include the welding machine, a wide range of wood-lathes, steel doors and windows, flour mills and coffee machinery, to name a few. The woodwork sector for its part nowadays targets both the middle class and higher income earners as part of its clients. Production quality has improved tremendously. Today several informals supply formal sector shops and businesses in the city centre. It is tailoring that has experienced less conspicuous technological growth over the years. The Kenyan informal garment making industry cannot be said to be supplying the high and middle income groups as most products are still meant for lower income consumers.

Enterprises in the 1970s had lack of tools as one of their major problems. Over 50% of firms in the sector had major machinery problems (Livingstone, 1980). The supply of machinery has since improved. Currently, the machines in short supply are metal lathes, metal pressing machines, furnaces for iron and steel, and thickness planers for woodworkers. These are extremely costly, and cannot be regarded as tools. The earlier tool shortage was eliminated by increased capacity within the sector to manufacture its own machines. In garment making the availability of affordable hire-purchase packages for machines made by the formal sector has played an important role in making machinery accessible. A new dimension in the metalwork sector is its demand for heavy duty machinery reflecting the sector's changing technological and production capabilities. It is worth noting the plans several jua kali associations to acquire steel smelting technology, as for example from Ghana. Previous attempts to get such technologies from India were bogged down at the negotiation level with their sponsors.

Another notable change is the level of education amongst entrepreneurs in the sector. This will be discussed in some detail in the education training and technology chapter. Entrepreneurs are increasingly more qualified by training and



education. Current surveys even reveal the presence of university and diploma level graduates in the sector (McCormick 1991). Though few, they exist. This would be unheard-of in the period up to the mid 1980s. The informal sector also plays an increasingly stronger role in the production of entrepreneurship in the sector.

One major setback faced by the informal sector currently is the loss of international trade, which did exist to a limited extent in the mid to late 70's. There was evidence of trade between at least Kenya - Tanzania and Kenya - Uganda in bicycle carriers and candles. This had since ended with little or no chance of revival unless there is a major move towards regional economic co-operation.

#### FIRM SPECIFIC DYNAMICS OF THE SECTOR

As mentioned above this will look at characteristics of entry into the sector, financial attributes of firms in the sector, and firm decision making capabilities.

##### Entry into the sector

The dynamics of entry into the informal sector has interested academics, planners and other parties concerned with the sector. A lot has been documented on the financial factors that enable entry into the informal sector (House 1978, House and Kamagambe 1976, King 1977, Mc Cormick 1988, Abuodha 1989). This literature can be generalised as affirming that low initial financial capital requirements and financial assistance from relatives and friends are what enable entry into the sector. Little or nothing has been done on an entrepreneur's history or the path to self-employment. The following section will also seek to contribute to our understanding of financial and socio-cultural aspects of entry into the sector.

##### Entrepreneur history prior to self employment

This section looks at the process of entrepreneurial development for the sector. Where do these entrepreneurs in

the sector come from? What factors drive entrepreneurs towards self-employment? From our sample, a small majority of entrepreneurs in the informal sector come from the informal sector itself. From table (3.1.a) 58% of entrepreneurs in the sample were previously trainees or employees in the sector. The remaining 42% were either in the formal private sector or the public service. These two distinct groups of entrepreneurs exhibit differing entry characteristics. One such characteristic is entrepreneur age at time of entry. Table 3.1.a below shows that entrepreneurs from the informal sector are starting their businesses at a somewhat younger age than the others.

TABLE 3.1.a: ENTREPRENEURIAL TYPE IN THE INFORMAL SECTOR:

Type of Entrepreneur	Frequency	Average Age at Time of Starting Business
Entrepreneur coming from the informal sector	58	30
Entrepreneur previously in the formal sector	38	35
Missing values	4	13
Totals	100	

TABLE 3.1.b: AVERAGE INCOMES EARNED IN EMPLOYMENT PRIOR TO SELF-EMPLOYMENT JOBS, AVERAGE PERIODS TAKEN IN EACH JOB, PERIOD TAKEN IN PART-TIME SELF-EMPLOYMENT.

Type of business	Job 1 average income	Job 2 average income	Job 3 average income	Job 4 average income	Part time
All firms	<u>533</u> (4) 71%	<u>640</u> (4) 33%	<u>1772</u> (4) 18%	<u>3150</u> (1) 2%	(1) <u>100</u> 9%
Metalwork	<u>587</u> (4) 77%	<u>736</u> (5) 46%	<u>1956</u> (4) 38%	<u>3000</u> (1) 3%	(1) <u>26</u> 15%
Woodwork	<u>511</u> (5) 71%	<u>580</u> (4) 50%	<u>1553</u> (5) 21%	<u>3200</u> (1) 2%	(1) <u>38</u> 11%
Tailoring	<u>539</u> (2.3) 54%	n.o.e 0%	n.o.e 0%	n.o.e 0%	(1) <u>22</u> 4%
Candle-work	<u>700</u> * 7%	n.o.e 0%	n.o.e 0%	n.o.e 0%	(0) <u>14</u> 0%

n.o.e: No Other Employment: This means no entrepreneur had a second, third, or fourth job in the sector.

\*Only one entrepreneur had a job prior to entering the sector. The value should therefore not be taken as an average value.

The figures in brackets represent average number of years spent in the job in question.

The figures underlined and in bold show the respective sample sizes.

The percentage figures in bold (n.b without underline) in the last column show the number of entrepreneurs in sub-sector who had part-time self-employment or employment before becoming self-employed in the sector as a percentage of number of people in the sub-sector. Only a minority of entrepreneurs go through part-time employment in the sector. Most part timers are found in the metalwork sub-sector. The table above show that at least 71% of entrepreneurs in the sector had had one form of employment before engaging in self employment, another 33% of the total had had at least two jobs, another 18% three jobs and only four had changed jobs three times prior to entry. A majority of our entrepreneurs, therefore, do have employment experience prior to entering self-employment. Only about 30% moved directly into self-

employment after informal training, college or school without any working experience in the informal sector.

From Table 3.1.b, it is clear that different sectors have different entry patterns. An entrant into candle work is unlikely to have any work experience, while in tailoring, approximately 50% will have had only one job experience, as opposed to metalwork and woodwork that will have on average two jobs before venturing into self-employment. The periods spent in employment within tailoring and candlework sub-sectors are less. On average tailoring entrants will have had only two years working experience as opposed to an average of 10 years working experience in metalwork and woodwork. Another major sub-sectoral difference reveals itself in the percentage numbers of entrepreneurs who go through self-employment. About 70% of metalwork and woodwork entrepreneurs will have undertaken some form of previous employment while in tailoring and candlework only 54%, and 4% respectively will have such experience.

The above findings have some significance for informal sector policies. It is clear that a majority of informals in the sector did have some form of employment (either in the informal sector or in the formal sector) prior to gaining full self-employment, with the exception of the candlework and tailoring industries. However Kenya government policy, particularly on education and training, aims at gearing graduates at all levels to move into self-employment. Similarly current unemployment alleviation policies aim at encouraging graduates of the Education and Training system, towards self-employment. The policies, unlike what our findings suggest address school and training or graduates and not those already in employment who may be seeking to move into self-employment. It is extremely unlikely that self-employment policies aimed at encouraging school and training graduates to move directly into self-employment will succeed. It is uncharacteristic for these graduates to enter self-employment. The two industries, tailoring and candlework where self-employment is most rapid have minimal absorption

capacity. The garment industry is faced with strong competition with imported second-hand clothes. The candle work industry on the other hand has had little or no growth as a majority of Kenyans do not even know of its existence. As we shall note later, there are major socio-cultural characteristics that hinder entry into this sub-sector. These together with the fact that the job is far from being attractive, (poor working conditions, over 12 hours of sitting and working, little or no future in the sector, and repetitive unchallenging work) would repel a majority of young men and women in Kenya. Therefore, we note that policy need address those already in employment rather than young graduates in Kenya.

*Table 3.1.c* shows in closer detail the type and nature of entrepreneurs in the sector. These are those entrepreneurs whose entrepreneurial knowledge was developed while in the informal sector and those whose entrepreneurial capacity was developed while in the formal sector. We shall refer to those from the formal sector as formal sector developed entrepreneurs (FSDE) and their counterparts as entrepreneurs developed in the informal sector (ISDE). The differences between these two groups are also salient.

TABLE 3.1.C AVERAGE INCOMES, PERIODS TAKEN IN EMPLOYMENT, AND PART-TIME EMPLOYMENT FOR FORMER FORMAL SECTOR EMPLOYEES.

Type of business	Job 1 average income	Job 2 average income	Job 3 average income	Job 4 average income	Part time
(FSDE) Formal Sector entrants	608(5) 100%	792(5) 52%	2537(5) 26%	3150(2) 5%	(1) 38 13%
(ISDE) Informally entrants	453(3) 51%	374(3) 22%	897(4) 12%	n.o.e 0%	(1) 58 5%

N.B. n.o.e: No Other Employment: This implies no other entrepreneur in this group had a fourth job in the subsector.

The figures in brackets represent average number of years spent in that job.

The figures in bold show the percentage number of entrepreneurs in the group who undertook employment or part-time self employment before joining self-employment. e.g 100% of formal sector trained entrepreneurs had at least one job as opposed to 50% in the informally trained group.

The underlined figures show the sample sizes for each group.

The major differences include:

- a) A larger percentage (up to 50% for our sample) of informal sector developed entrepreneurs (ISDE) do not have any form of employment before becoming self-employed.
- b) ISDE have shorter periods in employment than their formal sector developed counterparts (FSDE). On average ISDE will have only 6 years between two jobs as opposed to 10 years for the (FSDE) before moving into self-employment. A significant proportion of exformal sector workers have at least 15 years working experience. This cannot be said for the second group (ISDE) who have a maximum number of 10 years in pre-self-employment.

significant effects on entrepreneurial technological or managerial capabilities? We shall look at this more closely later when we discuss technology and training in the other chapters. We have looked at types of entrant and characteristic differences in entry across sectors. We now look at what drives entrepreneurs into self-employment. What, if any, are the major driving factors revealed by our data. From each of the two preceding tables, one aspect is obvious. Average incomes as our would-be entrepreneurs move from one job to the other increases. These future entrepreneurs seek to maximise their incomes even when still in employment. Another notable fact as we shall see shortly (see *table 3.6.b*) is that incomes earned in employment are far below incomes earned in self-employment.

From *tables 3.1.b or 3.1.c* the highest average incomes earned while in employment in the formal sector were approximately Kshs 3,000<sup>2</sup> per month after about 15 years of work as formal sector employees. This compares very unfavourably as we shall see with the income of a young entrepreneur with less than a year's experience in the informal sector (average incomes of new candle work entrants with less than a year experience is Kshs 2,600). Average incomes across the four trades in the sample are around Kshs 16,398 or (see *table 3.6.b*). Incomes are as high as Kshs 90,000 per month for the most successful in our sample. These expected informal sector incomes compare very favourably with the highest recorded levels of income in employment at Kshs 4,000 for our sample. This perception makes it rational therefore to move into self-employment and the same applies to an informal sector trainee or employee. Average incomes as trainees and workers were calculated at only Kshs 223 and Kshs 1,200 respectively.

What therefore are the reasons for differences in periods

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<sup>2</sup> At the time of the research, the exchange rate was approximately Kshs 47 = UK £1.

to moving to self-employment between (FSDE) former formal sector employees who take an average of 10 years to move into self-employment and informal sector leavers (ISDE), a majority of whom take only 3 years before moving into self-employment after training. The differences lie in technological competence between the two groups. Technological know-how plays a very important role in determining movement to self-employment. This is shown by the table below that shows whether an entrepreneur's production is similar to his former employer's. The result is clear: a majority of entrepreneurs' firms produce what they learnt during employment.

TABLE 3.2: RELATIONSHIP BETWEEN CURRENT PRODUCTION IN THE SECTOR AND PREVIOUS PRODUCTIONS WHILE IN EMPLOYMENT IN THE INFORMAL SECTOR:

	Frequencies	Percentages
Similar production to previous	67	69%
Different production compared to when in employment	29	29%
Had no previous employment or training	1	1%
Missing Information	3	3%
Total	100	100%

The differences in time periods when moving to self-employment is more a matter of perception. An informally trained entrepreneur has a fixed training period, after which he feels he has qualified, whereas his formal sector partner has to make this judgement himself. He therefore takes much longer, since in formal firms the obligation is not to train but produce. Secondly, since production processes in formal firms tend to have higher technological content than in the informal sector, it naturally takes more time to be conversant with such technology. Lastly informal sector employees are constantly in touch with the reality of setting



up one's own firm. They are even encouraged by their bosses and their other co-workers. Their formal sector counterparts, on the other hand, see more job seekers at the factory gate seeking employment. The risks of self-employment are exaggerated by the security of their jobs. They therefore take longer to make up their minds, and even when they do, they begin by going into part-time self-employment (a period of straddling and indecision) before finally making up their mind. As we shall see later, this lengthy period of employment is to their advantage in terms of technological acquisition.

#### Financial attributes to entry into the sector

We said in the previous section that it is widely agreed that low initial financial requirements are the basis of easy entry into the sector. *Table 3.3* shows that, for our sample, initial capital was an average of Kshs 13,931. This could go as high as Kshs 200,000 and as low as zero. These costs of entry vary from trade to trade, with the woodwork industry having the highest average costs Kshs 22,000, and candlework having the lowest at average initial costs of Kshs 272. Relative to entry into the formal sector as a new entrepreneur, these are very low costs.

TABLE 3.3 INITIAL MACHINERY AND FINANCIAL CAPITAL IN THE SECTOR

	Initial financial capital	Initial machinery capital
All firms together	13,931	11,788
Metal Work:	6,374	14,790
Woodwork:	22,517	13,247
Candlework:	272	14,471
Tailoring:	missing	8,054

N.B: Machinery capital is a part of financial capital.

What attributes make these initial costs as low as they currently are? There are three basic attributes of the sector that ensure lower capital costs. These include:

- a) Ability to make machines (AMM); AMM is common in the metal work in particular. This enables entrepreneurs to lower their initial costs considerably. Some locally made machines include manual cutters, bending machines, and punching machines. Amongst these are metal lathes, and mechanical metal pressing machines. An apparent anomaly is notable for metal work, where initial machinery costs actually exceed initial financial capital. This is because self-made machinery was valued and included as part of total machinery, but was not included in financial capital.
- b) Existence of rental capital in tailoring and woodwork enables producers to start business with insignificant initial costs. In tailoring, renting of machines combined with repair production together enables an individual to start with initial costs as low as Kshs 500. Machinery could be hired at Kshs 300 per month, and working capital can cost as little as Kshs 200. The entrepreneur then saves from repair earnings to buy his machinery and sets up his own production. Repair production also exists in metal work.
- c) Another aspect that lowers initial costs is the presence of financial and raw-material credit from other informal sector firms. This can take the form of cash or physical capital.

TABLE 3.4: WAYS ENTREPRENEURS IN THE SECTOR LOWER THEIR COSTS OF ENTRY.

	All firms	Metal work	Wood work	Candle-work	Tailoring
Machine Making Capability	27%	80%	16%	0%	0%
Rental Capital	19%	3%	40%	22%	10%
Subcontracts and physical credit	11%	23%	5%	15%	0%
Total Sample Size	100	26	38	22	14

From the above data we note that at least 27% (column 1) of the entire informal sector have ways of cutting down their initial costs. This of course varies from sub-sector to sub-sector. In metalwork, for example no less than 80% have AMM capacity as opposed to only 16% for woodwork. There are a substantial number of informals who have to face relatively higher entry costs. From our data not less than 43% of all informals do not have initial cost reducing capacity. How does this group finance their entry costs? Even those with initial cost-lowering capacity have still to raise substantial amounts. How are such finances raised? It is common knowledge that most informals have little or no formal business connections that would provide short-term or long-term credit. What, therefore, are the means to capital accumulation? Table 3.5 shows us some ways in which entry into business is financed in the sector.

TABLE 3.5: WAYS ENTREPRENEURS FINANCE BUSINESS STARTS.

Financing Method	Percentage Frequency
Savings from past employment	48%
Savings from part-time employment	9%
Loans from relatives and friends	22%
No costs faced	1%
Not answered	20%
<b>Total</b>	<b>100%</b>

Most investments are financed from past savings. Note that there is no single entrepreneur who got a formal loan to start business. Currently informals start business with no formal attachment to formal banking institutions. This already relegates their status to not being credit worthy. We note that most informals make conscious decisions to save in order to meet already low initial entry costs in the informal sector.

#### Other factors determining entry

We note that the candle work has such low entry costs that it might be thought unemployment should be non-existent in Kenya for so long as the candle work industry (or other easy access trader) can absorb more entrants. There are, however, factors other than financial and employment experience that determine entry into the sector. These factors are socio-cultural by nature and act against entry. We note that to date informally trained entrepreneurs form a bulk of the informal sector entrepreneurs. In our sample they constitute about 58%. Secondary nationwide data taken from jua Kali returns to the Ministry of Technical Training and Applied Technology (MTTAT) show that an even higher percentage (75%) of informals were trainees in the sector. This suggests there are higher chances of entering self employment if trained in the informal sector than in the formal sector or in

vocational institutes of technology. In the preceding section, we noted some ways in which informals attain entry into self-employment at lower costs. These strategies are more accessible to those being trained in or who have some exposure to, the informal sector than those without. These low costs of entry thus do not benefit all seeking employment and or self-employment in Kenya, but mostly those with access to informal sector training.

In more cases than not, informals train their relatives and friends' children. Compared to the number of unemployed Kenyans these 'chosen few' take priority. This, therefore, limits the numbers of people with access to informal training, and thus entry into the sector. This socio-cultural factor may help to explain why 99% of candlework entrepreneurs come from Gaicanjiru sub-location in Muranga district and another small sub-locations in Embu district in Kenya. We can conclude that, though financial costs to entry into the informal sector are low, other socio-cultural factors such as inaccessibility of informal training and the need for some working experience makes the sector less open to a majority of Kenyans than has been claimed by the ILO mission and many other subsequent reports. They have to work much harder to obtain necessary machinery, business connections, finance, and technology before entry. For them entry into the informal sector may not be easier than entry into the formal sector and especially if they are selective about types of informal sector work preferred.

#### Policy Issues on entry into the Sector

One issue that arises from the above discussion is the need to make the informal sector training accessible to those seeking training or employment opportunities. Ability to pay training fees should ideally take precedence over the entrenched socio-cultural values in accessing training in the informal sector. This should occur irrespective of the resultant increase in costs of informal sector training.

Secondly, those being trained in formal vocational training institutes should be exposed to informal sector operations. This could be done by encouraging apprenticeship and/or work experience to be done in both informal and formal industries: informal, to instil innovation and increase capacity to be self-employed, and formal to instil stronger technological and production quality values.

Credit institutions might work out ways of meeting would-be entrepreneurs while they are still in employment in the formal sector. If this were possible, entrepreneurs would have business track records with banks that could make them more eligible for loans. This could be done through special savings schemes for 'would-be entrepreneurs' with a low minimum deposit and a monthly contribution. This could operate like the National Social Security Fund (NSSF) in Kenya, only that it should be voluntary, heavily advertised through donor government help, and run by the private sector.

#### **Financial characteristics of the sector**

This section looks at the financial attributes of firms, which includes average incomes, capital stock levels, total labour employed, marketing of products, costing of products in the sector and competition. It is more informative than analytical in nature. A lot has been documented on incomes, capital stock and labour employed in the Kenya's informal sector. (House 1978, House 1976, King 1977, Livingstone 1991). This section will further contribute to the body of information developed over the years on financial attributes in the sector.

## Capital, Income, stock, and labour in the sector

TABLE 3.6.A: CAPITAL STOCK LEVELS IN THE SECTOR:

Firm types and others	Average Capital Stock (Kshs)	Maximum Values (Kshs)	Minimum Values (Kshs)	Sample size N
All sectors together	47,985	527,000	0	100
Metalwork	69,076	360,000	500	26
Woodwork	64,386	527,000	0	38
Tailoring	26,400	93,000	2,500	22
Candlework	2,000	559	90	14
Urban Areas	49,188	527,000	0	86
Rural Areas	40,857	264,000	2,500	14
Female	25,428	23,217	2,500	17
Male	51,952	100,874	0	83

Table 3.6.A indicates that the sector is diverse, with capital stocks highest in woodwork and metalwork, as opposed to tailoring and candlework. Industries with capital stock as low as zero, are industries where labourers come in with their own tools and heavy machinery services are hired. This is common in woodwork only. The figure given for candlework does not vary much for the whole subsector. The demand for capital here is low, with most capital consisting of hand tools.

In general, around 20% of the value of informal sector capital stock is manufactured by the sector itself. Tailoring has all its capital stock capacity produced by the formal sector, whereas metal work, woodwork and candle work have 40%, 60% and 10% respectively of their capital stock (by value) produced within the informal sector. The industries with larger local capital stock producing capacities have more machinery. We should note that capital stock in itself embodies technology. It follows, therefore, that mechanisation in the sector, particularly if it originates from within the sector, increases both self-reliance and capacities. Capital stock levels, in general, are higher in the urban than rural

areas. The differences are not great, and are reduced certainly by the absence of any candlemakers in our rural sample.

Table 3.6.A shows that men have higher capital stocks than their female counterparts. This could be more due to trade requirements than actual differences in gender capabilities. All females were in tailoring. When we compared capital stocks in female-run firms and male-run firms in tailoring, the values of average male capital stock was only Kshs16,660, compared to a female capital stock average of Kshs 25,428. In the last section we shall proceed to see the effects of capital stock on informal sector firm performance.

TABLE 3.6.B: INCOMES IN THE INFORMAL SECTOR

Firm Types and Others	Average Monthly Incomes (Kshs)	Maximum Values (Kshs)	Minimum Values (Kshs)	Sample Size N
All Sectors together	16,398	21,851	-3,200	100
Metalwork	25,580	85,455	863	26
Woodwork	19,278	90,800	-3,200	38
Tailoring	10,381	85,000	800	22
Candlework	2,045	4,800	1,200	14
Urban Areas	17,050	90,880	-3,200	86
Rural Areas	12,123	85,000	800	14
Male	17,262	22,325	-3,200	83
Female	12,334	19,560	900	17

Like capital stock, incomes in the sector vary across trades. Woodwork and metalwork again show higher levels of income in the sector. There was one woodwork firms, where incomes when calculated were actually Kshs -3,200. The entrepreneur, however, earned some more money from renting off some of his work place. Candlework incomes were the lowest. We should note in passing that most entrepreneurs found in candle



work, as opposed to the other trades, were simply eking a living out of their current trades. Fifteen percent of the established ones say that they would take a job if offered one in the formal sector; another 22% are looking for further training opportunities. They rarely invest, and incomes and capital stock levels remain low. Such entrepreneurs do not only exist in candlework, but in the other trades as well, though in lower proportions.

TABLE 3.6.c: NUMBER OF ENTREPRENEURS IN THE INFORMAL SECTOR WHO WOULD PREFER GIVING UP THEIR BUSINESSES FOR FORMAL SECTOR JOBS OR FURTHER TRAINING

	Percentage Frequency	Sample Size
Metalwork	15%	26
Woodwork	5%	38
Tailoring	2%	22
Candlework	37%	14
<b>Total</b>	<b>10%</b>	<b>100</b>

Income levels are higher in the urban areas again. We note that candlework is an urban phenomenon, and is thus not represented in rural areas. If we remove candlework incomes, the rural-urban income difference rises to Kshs 8,000. Larger markets, electrification, lower transport costs for those in the urban areas, are the basis for these differentials. This does have one implication, however, rural-urban migration of rural enterprise might prevail in the long run. One major advantage of being in the rural areas currently is the abundance of space and lack of harassment from authorities which are problematic in the urban areas.

It is worth observing the female tailors had higher incomes and capital stock than their male counterparts. Male tailor incomes were given at Kshs 3,740 as compared to female incomes that ranged at Kshs 12,334. Female entrepreneurs seem to have a lot more dynamism than their male counterparts. All males in the sample concentrated on male clothing. Though all

tailoring products were rarely of high quality, female product quality was relatively superior to male. High capital stocks, and maybe better markets work positively for female entrepreneurs in this sector.

TABLE 3.6.d: LABOUR, BY SUBSECTORS, GENDER, AND LOCATION

Firm Types and Others	Average Total Labour	Maximum Values	Minimum Values	Sample Size
All Sectors Together	4	26	0	100
Metalwork	3	26	0	26
Woodwork	2	13	0	38
Tailoring	2	8	0	22
Candlework	0	1	0	14
Urban Areas	4	26	0	86
Rural Areas	4	13	0	14
Female	3	8	0	17
Male	4	26	0	83

The average rate of employment across the entire sector is given as four persons per firm (see Table 3.6.d). Maximum levels of employment noted in the sample as a whole are as high as 26 but only 10% of the firms had employed over 10 labourers. Employment per firm is, therefore, low, and Ng'ethe et al (1989) argue that the only means of achieving large-scale employment in the sector is by horizontal spread rather than by vertical proliferation. Horizontal spread refers to the increase in the number of firms in the sector, whereas vertical spread refers to increased capacity of individual firms to employ more people. However we should note that two informal sector firms which could currently be said to have almost 'graduated' into the formal sector, interviewed in our preliminary studies but not in the final sample, had up to 76 labourers in one case (a woodwork firm) and about 43

labourers in the other (a metalwork firm in Nairobi). These two firms are direct examples of how vertical growth in the sector can actually achieve increased employment. All in all, horizontal proliferation is easier to achieve in the short run, but has its limits, in that it does not look at firm development. In essence, therefore, increasing employment through horizontal proliferation creates intermittent and casual employment. It is vertical proliferation that creates the more desirable steady employment. Policies should tend towards enabling vertical proliferation if the unemployment issue in Kenya is to be tackled effectively.

#### Firm Management in the informal sector

Investigations into firm management capabilities are important in that they enable researchers, policy makers, and field personnel to understand attributes of entrepreneurs in the sector, anticipate growth direction in the absence of intervention, and to formulate relevant policy at both the micro- and macro-levels. There is no agreement, however, about how a firm's managerial capabilities can be measured. To date studies have presumed the existence of book-keeping and accounts in a firm as indicating better managerial capabilities. This measure is very limited, and can only provide the barest indication of managerial capabilities in the sector. For our research, we looked at the intricate role of product costing by entrepreneurs in the informal sector, as a way of estimating management capacity.

There are always 'new' products in the informal sector. They are 'new' in that they have not stayed in the market long enough for market forces to set a price. Entrepreneurs producing such products should be able to charge profitable prices on the products. Such prices should reflect the imputed value of the products. Ideally, the imputed value of a product should include all imputed costs (including raw-material costs, labour costs, fixed costs, transport costs, managerial costs, and where significant, depreciation costs) and a profit margin.

In sub-sectors such as metalwork where entrepreneurs are always making adaptations to products, as per consumers taste or through their own innovativeness, costing is extremely important. Losses due to poor costing have been the reason for the collapse of at least one technologically very confident entrepreneur. This was a machine maker in Gikomba, whose prices were based on negotiation, and who eventually sold his woodlathes for Kshs 3000 whereas it cost him over Kshs5000 to produce one. This example could be true for many other entrepreneurs in the sector. Even if the firms do not necessarily shut down, incomes tend to be low, and investments low eventually resulting in firm stagnation.

Entrepreneurs with any form of costing mechanism will have bookkeeping records. Costing therefore provides a deeper measure of managerial capacity than plain bookkeeping. Another importance of costing is that it directly affects a firm's profitability index. There is, however, one major weakness with costing as a means of measuring managerial capability: firms whose product prices are strictly determined by market forces (i.e., firms that are price takers) cannot be judged. For such firms, their ability to market their products shows stronger managerial sense. Firms whose prices are set by the market can only increase their incomes through marketing as opposed to those who set their own prices. For price makers, the ability to cost reduces chances of charging below cut-off and enables one to decide appropriate profit margins, whereas for price takers, one's marketing ability decides one's profits. For these reasons and the above reason, we shall look at marketing and product costing in the sector.

#### Costing in the sector

From our sample about 24% of the sector's firms have their products set absolutely by market forces. A strange coincidence is that those who face already set market costs sell mainly to Asian wholesalers in the sector. They tend to produce and sell at a price dictated to them by the Asian

wholesaler. We shall say more about this group after looking at marketing.

About 20% of firms had some form of costing which included raw material, labour, and transport costs onto their profit margin. Of these only one entrepreneur (a metal-work entrepreneur of Githiga Village, Kiambu district) included depreciation and fixed costs in his costing methodology. He did not, however, include managerial costs or entrepreneur income (n.b. In informal sector firms, entrepreneurs are the firm managers). The implications of such costing mechanisms are deceptively high profits. We should note that most informal entrepreneurs do not pay themselves an income as managers, but consume funds as needs arise. Poor costing capability gives them no guideline as to how much they produce, and results in over-liquidation of the firm's cash to fund domestic needs. A majority of entrepreneurs work on a minimum mark-up value set by the market below which they will not sell their product. The eventual selling price of the product then absolutely depends on negotiation with the consumer. This mark-up rate is not calculated by the entrepreneur, but is constant throughout the market. This is common for tailoring and woodwork where products are fairly uniform across the sector, and are sold mainly to households. This aspect also has its limitations. Entrepreneurs are not able to tell which products have higher profit margins, and towards which they could re-orient their production, neither are they able to tell which products are not economical to produce despite the demand in the market.

TABLE 3.7.a METHODS OF PRODUCT COSTING

Costing Methodology	Percentage	Frequency
Price set by market forces	47%	(47)
Considers only raw-material, transport and labour costs	20%	(20)
Depends on consumer negotiation but has a mark up rate below which he/she does not sell	33%	(33)
Totals	100%	(100)

We note that most informal firms operate in managerial darkness. Most do not have estimations of how much they make at any period, and even if they do, chances are the estimations are wrong. They cannot tell which products are profitable when producing a range of products, thus are unable to make profit maximizing decisions. Payments to factors of production occur as need arises rather than by plan resulting in uncontrolled outflows and low firm liquidity. Under these circumstances credit is seen as the answer to these cash flow problems in the sector. The end effect is reduced cashflows which the informals believe can be solved only by obtaining credit. Even informals who could otherwise be self-sufficient in investment and working capital finance end up looking for loans. This explains the high demand for loans in the sector. 85% of entrepreneurs in our study said they did require loans.

#### Marketing in the Sector

Marketing also provides some measure of managerial capability in the sector. From *Table 3.7.b*, it can be seen that a majority of informals do not make constructive marketing decisions. For 59%, the only form of marketing is the outside display of products at the place of work. Even this method faces a lot of problems with local authorities. By local authorities by-laws in Kenya, keeping your merchandise outside your demarcated business premises is against the law. If found, the 'misplaced items' are simply carried away. Informal businesses with permanent premises normally will have

huge steel gates at the entrance, with no space allocated for on the spot advertisements. Those without permanent business premises lay their products out in the open, with serious repercussions if caught by the local authority. In general, working premises available for informals are too small for storage of finished products and working space. This inability to market oneself makes the idea of agglomerations very attractive (see IFAD, 1990). By staying in coagulations, they are able to attract customers to their locations.

TABLE 3.7.b      MARKETING METHODOLOGIES

Costing Methodology	Percentage	Frequency
No form of marketing	59	(59%)
Firm employs salesmen	3	(3%)
All products sold to Asian middlemen	24	(24%)
No answers obtained	14	(14%)
Totals	100	(100%)

Only three firms had employed salesmen in our sample. 24% sold to Asian firms in the formal sector. From empirical investigations, informal firms producing similar products will have 3 to 5 wholesalers to sell to. This results in intense competition between informals, and the middlemen can decide buying prices at will. Naturally, this results in low profit margins, low incomes, low investments and thus no significant vertical growth in firms. Entrepreneur ignorance on costing techniques makes them unable to make the decision to stop production of that product. He considers shifting to other products, when he notices a fall in his standards of living and ability to finance his variable costs. Shifting production to other less competitive products can only be done if the entrepreneur has the technology. The other option available is to sell directly to consumers at lower prices than those sold by middlemen in the sector. This requires some serious marketing that almost no informals are able to undertake on their own.

Another basic characteristic of these firms that sell to Asian middlemen is that they are supplied with raw-material credit on condition they sell to the middleman in question. This dimension causes a strangling connection between the sector and formal sector middlemen. The only way out of this trap is, through technological development, to shift production to less competitive products; but inability to do this keeps entrepreneurs within the stagnation trap (We shall look at competition, technology, and the stagnation trap in later sections).

In general, poor costing and marketing techniques make informal sector entrepreneurs vulnerable to middlemen in the formal sector. These middlemen, however, play an important role in the distribution of informal sector products to the rest of the economy. As the sector's role becomes more publicised, the role of formal sector middlemen will increasingly be advantageous to the sector. Informals will simply have to go through costing and marketing paces themselves, if they are to earn existing consumer surpluses in the market.



## PART IV

## EDUCATION, TRAINING AND TECHNOLOGY IN THE INFORMAL SECTOR

This section looks at education and training in the informal sector. Towards the end of the chapter we will look at the implications of training on technological development in the sector.

## Education in the informal sector

This section looks at education levels of entrepreneurs in the informal sector, government policy on education in relation to the sector, and the effects of entrepreneur education on firm performance.

*Educational composition of the sector*

Table 4.1 below shows education levels in the informal sector. A majority of entrepreneurs have either primary or secondary level education with slightly more primary than secondary educated entrepreneurs.

TABLE 4.1: EDUCATION LEVELS OF ENTREPRENEURS IN KENYA'S INFORMAL SECTOR:

Level of Education	Frequency	Percentage
No Education	4	4%
Primary Education	49	49%
Secondary Education	41	41%
Higher Levels of Education	5	5%
Missing values	1	1%
Totals	100	100%

This trend remains the same in three out of four trades in the sector, an exception is candlework, where secondary level entrepreneurs are much less common than in the other sub-sectors. As mentioned previously, candlework is unattractive as a full-time trade. From our field experience, a significant percentage of the younger entrepreneurs in

candlework saw their trade as a prelude to better training. Secondary school leavers are bound to be more uneasy with the trade than their primary school counterparts. The resultant effect is fewer secondary level leavers in the sub-sector.

TABLE 4.2: EDUCATION LEVELS IN KENYA'S INFORMAL SECTOR BY TYPE OF TRADE.

Level of Education	Metalwork	Woodwork	Tailoring	Candle-work
No Education	1(3.8%)	0(0%)	2(9.1%)	1(7.1%)
Primary Level	12(46.2%)	19(50%)	7(31.8%)	11(78.6%)
Secondary Level	12(46.2%)	12(47.4%)	9(40.9%)	2(14.3%)
Higher Level of Education	1(3.8%)	1(2.6%)	3(13.6%)	0(0%)
Missing values	0	0	1(4.5%)	0(0%)
Totals	26	38	22	14

We should note that what is defined as 'no education' are those without even a year of any formal education. Primary education consists of those with at least four years of education, standard seven primary school graduates, the 8-4-4 educational system, and the colonial level standard eight. These are all combined under primary level education. Table 4.3 shows these intricate differences in education in the sector.

TABLE 4.3 : EDUCATION LEVELS IN DETAIL.

Level of Education	Frequency	Percentage
No Education	4	4%
(STD 7) Primary Level of Education	17	17%
(STD 8) 8-4-4 Primary level of Education	2	2%
(STD 8) Colonial System Primary Level of Education	9	9%
Secondary Level Up To Form 2 Level	16	16%
Secondary Level Up To Form 4 Level	25	25%
Diploma Level	4	4%
University Level	1	1%

One notable aspect is the occurrence, though small, of higher level educated personnel in the sector. This group included one university graduate, and four diploma level trained entrepreneurs. Surveys and sample studies done before 1978 did not have such high levels of educated entrepreneurs in the sector. There are two implications on this fact.

- a) The sector is increasingly becoming acceptable across the society, resulting in changing educational composition of entrants. Particularly notable is the high mean age (60) of entrepreneurs with no education compared with mean ages in the thirteen of those with more education (see *Table 4.4*). This agrees with our assertion that entrepreneurs are currently better educated. Higher costs of living and a continuous steady fall in real wages in the sector have put pressure on both highly educated and less educated workers to seek alternatives ways of earning, to uphold and improve the quality of their lives. This could be the basis to improving educational levels in the sector. Currently, not only is the falling real wages effect pushing better educated personnel into

the sector, but also widespread publicity given to the sector and deliberate government policy encouraging movement into self employment. The Kenya government and other private institutions, (e.g., the Pan African Bank) are toying with the idea of financing graduates to move into the sector. We therefore, expect the continued improvement of educational levels in the sector.

- b) The informal sector is more a result of financial and socio-political obstacles to entry into the formal sector than low quality of entrepreneurs in the sector. Leys (1976) argues that the informal sector is a marginalised sector, and implies that poor entrepreneurial quality would not enable them undertake formal sector operations. Rempel (1974) also argued that a percentage of the sector's entrepreneurs only eked out a living in the sector. By implication, he also agrees that entrepreneurial quality is low in the sector. Better educated entrepreneurs leaving their stable jobs to start their own firms makes Leys' view lose credibility. These better educated entrepreneurs enter the informal sector due to the difficulties of entering the formal sector rather than the attractiveness of the informal sector. These entrepreneurs view themselves as having settled for less. Some aspects they mentioned that hindered entry into the formal sector as African entrepreneurs included:

- i) The existence of powerful monopolies in the economy. There are two ways in which monopolies formed in Kenya.

- a) Industries having strong socio-cultural links with forward and backward linkage firms, (e.g., a steel rolling mill will have direct control of steel wholesalers and may also own two steel product firms). Breaking into such an industry is extremely difficult.

b) The other form of monopoly occur due to excessive control of foreign exchange allocation to imports. Government policy to control foreign exchange has resulted in unplanned over-restriction of quotas to a few established firms. The effect is that they gain monopolies which they can use to control not only the supply of intermediate inputs but also second level production.

ii) Some of the most acute and extensive problems about joining the formal sector are the high rents and shortage of working premises within areas specially set aside and built for commercial and manufacturing firms. High consumer surpluses have resulted in illegal rents informally referred to as 'goodwill'. This acute shortage encourages movement into the informal sector.

If these barriers to entering the formal sector are not resolved in the near future, there will be increased highly educated-entrepreneurial entrants into the informal sector.

Having looked at education levels in the sector, we shall now look at some of the correlations with income and particular trades. Profit-oriented firms are judged by their turn-over rates, or their profits. This can also be done by looking at employment levels, if all firms being compared use fairly similar production processes. Since most firms in the informal sector do use similar production processes, we can use employment as a measure of firm performance in the sector. *Table 4.4* below shows average incomes (the figures in bold) and firm size defined in terms of employment (the underlined figures below income).

TABLE 4.4: RELATIONSHIP BETWEEN EDUCATION ON FIRM SIZES AND INCOMES

Level of Education	Metalwork	Woodwork	Tailoring	Candlework	General
No Education	17,000 10	N.A.	5,500 0	1,400 0	60 7,350 3
Primary Education	16,891 5	8,821 4	5,748 3	2,087 0	39 8,676 3
Secondary Levels of Education	32,226 5	29,735 6	13,788 1	2,200 0	34 25,620 4
Higher Levels of Education	50,000 6	** 7	11,683 6	N.A.	39 21,262 6
Missing Values	N.A.	N.A.	N.A.	1(1%)	1(1%)
Sample Sizes	26	38	22	14	100

\*\* There was only one woodworker with this high educational levels, but his statistics on income were not available.

For information on sample sizes of each cell see previous table.

From column 5 the pattern between education and firm performance measured by both income and labour is clear. Higher levels of education imply higher levels of firm performance. This, however, changes slightly when we look at individual firms in the sector.

With the exception of metalwork, where entrepreneurs with no education actually perform better than primary level entrepreneurs, all other sectors clearly show that the higher an entrepreneur's education level, the better is the firm's income. (We should note that there was only one entrepreneur in metalwork with no education). The candlework industry confirms this general rule, but with minimal differences in mean incomes and employment. This can be explained by the fact that the sector has limited growth potential. On average the entrepreneur is the sole labour and managerial unit. There is

only one available production technology which is very manual and uses basic tools. An entrepreneur's production cannot exceed a certain level (estimated at 50 candles per day). Scarce resources and low profit margins do not allow entrepreneurs to invest in another unit of labour. Production, hence incomes, cannot differ significantly across this subsector.

We can conclude, therefore, that higher education levels in the sector do mean more stable income generating firms in the sector as a whole. Encouraging more educated entrants should, therefore, be pursued as a policy by the government. Apart from firms being more profitable, more educated entrepreneurs tend to be more responsive to policy. This aspect is important for the informal sector's development.

#### Kenya Government policy on education and informal sector development

Kenyan government education policy has had considerable change in the last decade since previously education was geared toward producing skilled or trainable labour for the formal sector. Emphasis has since changed to include laying a foundation in preparation for further vocational training after school, as well as encouraging respect for the dignity of labour. Education policy has also put emphasis on encouraging self-employment rather than wage employment.

In this section, we will try and evaluate the effect of such policy on the informal sector's development. As of now, very few informal firms have had any kind of experience with the 8-4-4 system. As *Table 4.3* above shows us there are only two 8-4-4 graduates as entrepreneurs in the sector. This number is too low to enable us discuss their contribution. On the other hand, about 22% of our sample did have 8-4-4 graduates as part of their trainees (*see table 4.5 below*). This number is not too small, when we consider the number of firms who actually do train.

TABLE 4.5: LEVEL OF 8-4-4 PARTICIPATION AS TRAINEES IN THE SECTOR

No. of 8-4-4 Trainees in Firm	Frequency of Occurrence	Percentage Frequency
No 8-4-4 Trainees	78	78%
1	6	6%
2	3	3%
3	3	3%
4	4	4%
5	6	6%
Missing Values	6	6%
Totals	100	100%

From our sample, there are only 34 firms out of a hundred that provide training. Out of these, 22 firms had 8-4-4s among their trainees. Within these firms which have 8-4-4 graduates as trainees, there was an 8-4-4 trainee for every one previous primary school graduate. If these ratios are consistent all over the sector, then it is as taken 8-4-4s less than five years to be participating in equal footing as trainees with the previous primary graduates despite a substantial number of unemployed standard seven graduates. Whether this is an achievement is hard to say, but 8-4-4s seem to have higher affinity for informal training. One aspect gained from talking to 8-4-4 primary students and those already engaged in the sector was that 8-4-4 students do get exposed to handling of simple tools and some knowledge on business locations and management. For those who have already joined the informal sector, the demand for further vocational training is actually increased.

Even without the 8-4-4 system, the increased publicity about the sector does not only improve the sector's outlook to 8-4-4 graduates but also to parents and guardians. These out-



of-school factors are also likely to increase the demand for informal training. 8-4-4 reforms are bound to increase demand for both informal and vocational institute training rather than encourage students to enter self-employment directly as the policy perhaps implies.

#### Policy considerations

We noted above that entrepreneurs in the sector are increasingly becoming more educated. Certainly, the increase in better educated entrepreneurs in the sector will mean a more dynamic and policy responsive sector with better chances of developing into an industrial society. The move to encourage better educated entrepreneurs into the sector should be promoted.

The increased demand for formal and informal training facilities caused by increased publicity and in part through the effect of 8-4-4 curriculum has to be recognised. A lot is beginning to be done to formal institutes of training, with very little being done on informal training capacity. This may be an imbalance, there is need for policy to recognise the existence of informal training, then find ways of improving it. Formal institutes of training also still have a long way to go before they can on their own effectively contribute to both entrepreneurship and technology in the sector (we shall look at this later in the chapter).

#### Training in the sector

Generally there are three main types of training available for would-be artisans or technicians. These are vocational training institutes, formal sector on-the-job training (OJT), and informal sector on-the-job training (OJT). Of these three, formal sector OJT is the attained by virtue of simply being an employee. Unlike the others, one cannot choose to attain formal sector on-the-job training. Within vocational training, by contrast, there are several forms of institutions, each differing from the other in quality of content. At the lower level are youth polytechnics (YPs), then

technical training institutes (TTIs) and, a little higher up, harambee institutes of technology (HITs). These are much higher technical training levels that provide diploma level certificates.

*Table 4.6* below show levels of technological endowment in the informal sector. In the table there are more variations in training systems than mentioned above. "No training" is used for those entrepreneurs who did not receive any form of training. "Informal training" are those trained on the job training in the informal sector. "Vocational training" is for those trained in vocational training institutes. "Formal sector training" are those trained in formal sector industries (on-the-job-training) whereas "combined vocational and formal training" looks at those entrepreneurs with vocational training, who then went on to gain formal sector training. At this point it may be asked why we do not have a combination of informal sector training and vocational training, for example.

We should note that any entrepreneur in the informal sector gets exposed to informal sector training after setting his firm, or while undertaking part-time self-employment. In metalwork and tailoring, one goes through informal training, through sharing of informal production processes with other entrepreneurs. In woodwork, entrepreneurs employ informally trained workers who use informal methods of production. It is for this reason, that informal sector training on its own is construed to be disadvantageous. An individual with "informal training" only is not exposed to other training methodologies. He is, therefore, given a different training level from the others. The last group is the "highly trained not in the field of trade". This represents people highly trained in fields other than the one they are currently working on. An example is a fully trained salesman owning a woodwork firm, or a qualified nurse running a tailoring firm. The not-highly-trained, and the highly trained non-artisan do not get access to informal training. Most of them only undertake management duties.

From Table 4.6, most entrepreneurs in our sample were trained in the informal sector. Formal sector, vocational and a combination of both share similar percentages in training levels.

TABLE 4.6: TRAINING TYPES IN THE INFORMAL SECTOR:

Training Level	Frequency	Percentage
No Form of Training	12	12%
Informal (OJT)	44	44%
Vocational Training	14	15%
Formal Training (OJT)	12	12%
Combined Vocational and Vocational	9	9%
Highly Trained in Other Fields Not Similar to Current Trade	8	8%
Totals	100	100%

These ratios change as we look at individual sub-sectors. In metalwork, the dominance of informally trained is still notable, but the other training types are close. We should however, note that those with direct vocational training in metalwork actually do other forms of work to raise funds before undertaking self-employment.

A real case example is a metalworker in Gikomba who after vocational training in National Youth Service training facilities was employed in a food kiosk for one year. While there he saved enough money to buy raw-material for a woodlathe. He went on further to shape furniture legs until he had saved enough to buy a spot welding machine, grinder, and drill; then he set up his metalwork firm.

In woodwork, there is little direct entry of vocational trainees into the sector without any other form of employment. The majority were informals (32%), followed by those not trained in woodwork who consisted of another 32% (i.e those both highly trained elsewhere (*last row*) and those without any training (*first row*). Tailoring did not have any formally

trained personnel. They were either from the informal or the vocational training institutes. Candlework had a majority of informally trained, and only one "no training" entrepreneur. Otherwise it had no other type of entrepreneur.

TABLE 4.7: TRAINING IN THE INFORMAL SECTOR BY FIRM TYPES

Training Levels:	Metalwork	Woodwork	Tailoring	Candlework
No Form of Training	2(7.7%)	3(23.7%)	N.A.	1(7.1%)
Informal (OJT)	9(34.6%)	12(31.6%)	10(45.5%)	13(92.9%)
Vocational Training	5(19.2%)	1(7.9%)	9(40.9%)	N.A.
Formal (OJT)	6(23.1%)	6(7.9%)	N.A.	N.A.
Combined Vocational and Formal (OJT)	3(11.5%)	6(7.9%)	N.A.	N.A.
Highly Trained in Other Fields Not Similar to Current Trade	1(3.8%)	4(7.9%)	3(13.6%)	N.A.
Totals	26	38	22	14

Policy has always been interested in which training types are best for firm performance. To get an insight on this, we looked at training types and firm performance variables (incomes and labour employed). Table 4.8 below examines this in more detail.

From Table 4.8, the best firm performance is noted as combined vocational and formal OJT training, followed by entrepreneurs highly trained in other fields, then by vocationally trained, then by no form of training. Formal sector training follows very closely, and lastly the informally trained. The informally trained could have lower average incomes, due to the particular effect of the candlework industries in the sample. To remove the effect of similar factors we repeat the process by particular trades.

TABLE 4.8: RELATIONSHIP BETWEEN TRAINING AND INCOMES IN THE SECTOR

Training Type	General	Metalwork	Woodwork	Tailoring	Candlework
No Form of Training	21,022	38,975	19,225	N.A.	1,300
Informal (OJT)	7,144	9,594	11,501	6,254	2,112
Vocational Training	23,723	22,891	25,600	14,533	
Formal (OJT)	10,777	14,354	9,200		
Combined Vocational and Formal (OJT)	30,508	36,666	27,430	N.A.	N.A.
Highly Trained in Other Fields Not Similar to Current Trade	27,978	14,000	48,933	11,683	N.A.
Sample Size	100	26	38	22	14

In metalwork the results are very much the same as in the general case. Combined vocational and no training lead to income levels of over Kshs 35,000. Some entrepreneurs have no form of training and yet show very high income levels. (These findings challenge conventional wisdom and we shall seek to explain this after looking at technologies in the sector). They are then followed by vocational training, and formal sector OJT. Last on the list is informal sector training.

In woodwork, the very highly trained workers in trades other than woodwork lead with the highest incomes found for a group in our sample having an average of Kshs. 48,933. This is followed by a more modest Kshs. 27,340 for combined vocational and formal training. Vocational training is next, followed by no training, then OJT formal, and lastly informal training.

In tailoring, vocational training leads the field with average earnings of up to Kshs. 14,533. This is followed closely by highly trained entrepreneurs from other fields, whereas informal training trails the group.

In candlework, the informally trained do better than those without training. However there is only one candleworker without training as compared to 13 of the other group. The differences in income were not significantly different.

We can conclude that all forms of formal sector training appear in some sense to be more effective than their informal counterparts. Table 4.9 looks at this relationship more closely. On average, formal sector trained entrepreneurs (i.e. whether OJT or institutional) have much better firm performance levels than their informal counterparts.

TABLE 4.9: FIRM PERFORMANCE (INCOME AND LABOUR) BETWEEN INFORMAL AND FORMALLY TRAINED ENTREPRENEURS

Type of Training	General	Metal	Wood	Training	Candle
Informal Training	35 7,144 2	37 9,594 2	30 11,501 2	35 6,254 2	37 2,112 0
Formal Training	41 24,976 5	44 33,944 7	44 25,532 5	33 13,820 3	N.A.

Another notable factor is the exceedingly high level performance shown by entrepreneurs who are not 'fundis' (*fundi* is swahili for 'artisan'). This phrase is used to mean people not trained in the trade of their enterprise. They hire skilled labour and manage resources in the sector. Of the trained personnel, some form of vocational training seems to play a major role in an entrepreneur's capabilities. Informally trained personnel display the least performance capabilities, at least as measured by income.

#### *Government Training Policy*

Kenya government training policy has undergone considerable changes. First is the continued capacity expansion of institutes of technology, and the actual increase in number of institutes in the country. The qualitative aspects of college graduates are also increasingly being addressed. The major qualitative changes being planned are curriculum development and industrial attachments for students. Curriculum is being expanded to include entrepreneurial skills development as part of normal course work. This will be done through small business centres to be

opened in these institutes of learning where students will be expected to undertake compulsory attachment with formal sector firms as part of training. When looking at technology and training we shall seek to evaluate the direction of some of these policy changes.

#### Policy implications in training

We indicate here that the informal sector plays a major role in the training and development of entrepreneurship in the sector, yet informal training seems to have the least effect on an entrepreneur's development capacity. The data almost implies that the individual would be a lot better if he were not informally trained. As we said before, there is the initial need for policy on the sector to address itself to this form of training in the sector. Ways of improving it should be determined, otherwise there may be massive production of second rate entrepreneurs.

Secondly, policy should now re-address itself not only to artisans, but also to non-artisans. It is important that policy address itself to the relevant group of non-artisans, those in employment who may be seeking to move into self-employment, since the job paths of entrepreneurs in the informal sector illustrate patterns of both formal and informal employment. Advertisement packages urging movement into self-employment by those in employment, both artisan and non-artisan, might be considered, rather than exhorting only fresh school and college graduates.

Lastly but not least, the best form of training seems to be a combination of vocational and formal sector exposure. Attachments to the formal sector do seem to help in improving either entrepreneurial capabilities and/or technological prowess of entrepreneurs. We should emphasise, however, in reading these preliminary conclusions that several of the entrepreneurs we have interviewed are the first generation to make these particular products and they received their training in the formal sector firms. The key question now is

what kind of training exposure they are providing to the next generation of trainees in their own informal firms.

#### Technology in the informal sector

There are two forms of technology in a firm: technology embodied in human capital and technology embodied in machinery. Technology embodied in machinery will have strong science applications in its content, whereas technology embodied in human capital can either be scientific or managerial in context. It is extremely difficult to measure these even in a formal setting, leave alone in the informal sector. However there is need to model technological growth in the informal sector and attain ways of measuring its content.

#### Measuring technology in the informal sector.

Technology embodied in machinery can be measured easily by looking at levels of capital stock in the economy, or better still, by looking at capital labour ratios (KLRs) over the sector. KLR's will give the amounts of capital used by units of labour in the sector. However a study on technological change is a time series study and looks at changes over time. There is very little on capital labour ratios in past surveys, but there is a lot more on capital stocks in totality. To be able to make constructive inferences on changes over time we will use total capital stock as a proxy to measuring change in technology embodied in machinery.

Human embodied technology is another dimension that is very difficult to quantify. We, however, use basic characteristics of the sector to enable us to measure this item. There are basic level productions in the informal sector in different trades. In metalwork for one, several firms produce building fabrications (e.g., steel windows, steel gates, grills etc.). Another large group produces complementary building products (e.g. "wall pass", hinges, T-hinges, etc.), and a last one, commonly referred to as tinsmiths, that produces a range of hand tools and consumer durables (e.g., hoes, metal boxes, sufurias, jikos, etc.).



These three basic level products are noticeable to even casual observers passing by. These three groups account for 50% of our sample. We strongly believe that a larger sample size could show larger percentages for these products.

In woodwork and tailoring the same occurs in a different context. A majority of entrepreneurs in these sectors produce low quality goods meant for low income consumers. Ninety percent of woodworkers and 66% of tailors produce for this market (see Table 4.11). Technological input into such productions in terms of product design, and man-hours of labour are cheap and low. Such technology, as in the case for the three metal work cases mentioned above, is widespread and can be achieved by any tailor or woodworker. The same occurs in candlework, where all workers produce the same products throughout.

Such product duplications across the sector tend to lower prices of the product. Competition is very stiff among producers. In the case of metalwork, one could argue that the Kenyan building industry has very wide capacity and can absorb more firms into the sector. Though this is true, it is also true that these building contracts are not advertised, hence entrepreneurs get them through friends and relatives. The result is that a minority do very well, and a majority have to survive on a trickle of low income contracts. As mentioned above, since there is an abundance of labour for such productions, individuals (trained and untrained in metalwork) with market connections will enter the market. This aspect of being better placed to obtain business deals may explain the better firm performance of non trained entrepreneurs (see Table 4.8).

For the rest without business connections there is strong pressure to move out of these productions to other less competitive forms of production.

*Evidence of shifts in production in the sector*

1) In an average period of 8 years, for our sample 19% of our entrepreneurs previously producing bicycle carriers, "wall

pass", and stands have currently shifted to t-hinges, brackets, washers, etc. They each cited high competition and low profits as the cause for their shifts.

2) In the same period of 8 years, there was only one firm originally producing woodlathes. This has currently swelled in Gikomba area alone to six.

There are three key points to note at this level:

1) There is a constant tendency to shift production in the sector from highly competitive areas to new areas of production. These shifts to new areas of production provide the basis for technological growth in the sector.

2) There will be at first one entrepreneur to start the move or the shift. Then with time a sporadic movement converts to a substantial one. What was once a very profitable product becomes low profit and at times even makes losses.

3) Entrepreneurs with this capacity to shift their productions are those we refer to as the technologically confident entrepreneurs. We shall see later that these entrepreneurs are those with the most intensive forms of training. Non-trained entrepreneurs may have high firm performance but very little technological capacity in metalwork or woodwork.

It is this variation production shifts that we use to measure technological confidence in metalwork and candlework. In woodwork and tailoring we use shifts in production quality to measure the same. The other variable used to measure technological confidence is machine making capability. We looked at this in our third chapter on entry. It is obvious that machine making capability relative to no capabilities implies technological superiority. Machine making capability will be more relevant to metalwork than to tailoring or woodwork. In candlework the costs of tools is so low that machine making capability is not necessarily an advantage.

*Technological levels in the sector*

The two tables below (Table 4.10 and Tables 4.11) show technological levels in our sample as per technological confidence, machine making capabilities, and capital stock levels. The metalwork and woodwork sectors show the highest levels of technological confidence in the sector. These sectors are the ones with considerable horizontal and vertical growth potential. Yet overall technological confidence among entrepreneurs is very low, at only 19% of all entrepreneurs.

TABLE 4.10: TECHNOLOGICAL LEVELS IN THE INFORMAL SECTOR.

Type of Enterprise	Technological Confidence %	Capital Stock Levels Ksh.	Machine Making Capabilities %
General	19%	47,985	27%
Metalwork	38%	69,076	81%
Woodwork	35%	64,866	6%
Tailoring	0%	26,440	0%
Candlework	0%	774	0%

Machine making capability is high in the metalwork industry, and rightfully so. There are two entrepreneurs in woodwork with machine making capabilities. Metalwork and woodwork have almost equal levels of capital stock. This translated to actual machinery could mean an average metalwork firm will have a grinding, welding, and drilling machine. This in terms of total capital stocks does not meet machinery levels in even light duty metal firms in the informal sector.

Technological machinery capacity in the informal sector is still very low. A majority of firms do not even have a lathe. The lack of this important metalwork instrument means informal technical operations are limited to cutting, bending, non-precision fitting, manual punching, and to some level aluminium casting. This is far below technological capacities in light industries, which will have capacity for turning,

joining, precision punching, cutting, electro plating, etc. The direct implication of these facts is that capital machinery levels in the sector, though dramatically higher than in the 1970s, are still too low to develop any meaningful industrial capacity at this stage. The sector has only undergone a first stage industrialisation process as a result of limited electrification machinery for production. This did create extra production capacities, which are rapidly being exhausted with product scope expansion and differentiation by entrepreneurs in the sector.

In woodwork the average capital levels imply an average firm has a band saw, woodlathe, circular saw, and hand tools. Given that, unlike in metalwork, there are rental machinery services provided from both the informal and the formal sectors, such capital levels currently suffice for production. On average, woodwork firms spend up to four times the amount of capital they possess on renting machinery capital. We can conclusively say that technology embodied in machinery in the woodwork industry is significant.

TABLE 4.11: PRODUCTION QUALITY IN TAILORING AND WOODWORK.

Type of Products	Woodwork	Tailoring
Low Quality Production	68.4%(26)	90.0%(20)
Intermediate Quality	23.7%(9)	9.1%(2)
Highly Quality Production	2.6%(1)	0%(0)
Missing	5.3%(2)	0%(0)
Totals	100%	100%(22)

Note: Percentages do not add to 100 because not all firm products could be rated.

We said above that most firms in tailoring and woodwork, however, produce for low income earners. This shows serious technological constraints in product design and differentiation in these sub-sectors. Product design technology constraints are serious in tailoring, where only 9%

produce for the middle class market. Because of poor quality production in tailoring, the sale of second-hand clothing seriously affects garment sales. These second-hand products are primarily cheap, of better quality even though used, and might be even more durable. The tailoring industry has to take these considerations into account if the sector is to grow into a meaningful garment-making sector.

In conclusion we note that, in general, the technological levels in the informal sector are still very low. However there has been significant positive change in the sector's technological capabilities in the past 10 to 15 years. A great deal will need to be done if an industrial society is to be built from these low technological levels as they exist in the sector today.

#### *Policy consideration in technology*

There is need for second stage mechanisation if any meaningful industrialisation capacity is to be realised. This should involve the introduction of the metal lathe and precision fitting machines into the sector. NGOs in the country are considering opening resource centres where informals could use such facilities. Such programs involving multitude of users tend to fail due to lack of accountability on users' part. There is need for prospective informals to have access to such machinery through credit packages that consider informal pay-back capabilities (i.e., considers both period taken to pay back and amounts that they can comfortably pay per month, week or fortnight etc.), rather than subsidized packages.

#### *Technology and training in the informal sector*

We have looked at how training affects firm performance in the sector. The best training combination was clearly combined vocational and formal sector training. The performance of non-trained entrepreneurs (highly trained and not highly trained) stood out convincingly amongst their trained counterparts in the sector. Vocational training alone

proved better than formal and informal training. In candlework, however, firm performance levels were actually low for everyone in the sample. We now look at training and technology to see if there are any correlations between training, technology, and firm performance.

Table 4.12 below shows technology and training levels in the whole data set. From the table, there is no clear cut trend of technological superiority across sub-sectors. The results differ from measure to measure, with formal sector trained entrepreneurs showing the largest percentages of technological confidence at 33%. Combined vocational and formal sector training, vocational training, and highly trained non fundi entrepreneurs follow; informally trained personnel show low levels of technological confidence, whereas 'no training' had no technologically confident entrepreneurs.

TABLE 4.12: TECHNOLOGY AND TRAINING IN THE INFORMAL GENERAL:

Training Type	Technological Confidence	Capital Stock Levels	Machine Making Capabilities
No Training	0%	94,966	0%
Informal Training	16%	9,607	14%
Vocational Training	26%	56,878	33%
Formal Sector Training	33%	78,870	58%
Combined Vocational and Formal Sector Training	22%	87,023	33%
Higher Levels of Training Not in Field of Trade	25%	90,512	0%

On technology embodied in capital, entrepreneurs with no artisan training (i.e., the first and last rows) have much higher levels of capital stocks. This implies either they will normally have greater access to capital than their trained counterparts or they have higher investment propensity. Combined vocational training and formal sector training,

formal sector training, and vocational training follow in that order for capital stock levels in the sector. Informal sector trained entrepreneurs, on the other hand, show the lowest levels of capital stock.

On machine making capability non-artisan entrepreneurs have no machine making capability. Formal sector entrepreneurs come out very strongly on this aspect, followed by combined vocational and formal sector training respectively. Informal sector trained personnel once more lag behind.

We can conclude that generally some form of formal sector training seems to provide more technological confidence than no formal sector training. Such "graduates" of the formal sector are more flexible in adapting production and acquiring machinery. Vocationally trained entrepreneurs, on the other hand, produce larger, more profitable firms, but have less technological capacity than their trained counterparts. A combination of these two provides the ideal technologically superior, yet at the same time high firm performance levels. Non-trained entrepreneurs will, in general, have very low technological levels, which they compensate for by investing more in machinery (technology embodied in machinery). They also have very high firm performance levels. Informally trained entrepreneurs were not impressive in either technological contribution or firm performance.

We already know that incomes and capital stock in the candlework industry are low, and the sector does not exhibit any form of strong technological growth. In the same breath, we note that most or all of them will be informally trained. This distorts our conclusions on informally trained technological capabilities in the entire sector. We need to have a sub-sectoral analysis rather than a general analysis, starting with metalwork.

## Technology and Training in Metalwork.

TABLE 4.13: TECHNOLOGY IN THE METALWORK SUBSECTOR

Training Type	Technological Confidence	Capital Stock Levels	Machine Making Capabilities
No Training	0%	68,500	0%
Informal Training	67%	17,477	67%
Vocational Training	80%	64,550	80%
Formal Sector Training	67%	116,116	100%
Combined Vocational and Formal Sector Training	75%	145,898	75%
Higher Levels of Training Not in Field of Trade**	100%	40,700	100%

\*\* Indicates there was only one person in that group; the figures do not allow generalisations.

One major danger of having a sub-sectoral analysis is that each sub-sector's sample size becomes too small to allow for concrete judgement. We shall therefore discuss broader groups, namely: no training, formal (vocational or OJT) and informal sector (OJT) training. Metalwork statistics do to a large extent conform with the general data results above, only that informal sector technological contribution improves considerably.

In metalwork, informally trained entrepreneurs show much higher levels of technological confidence similar in contribution formal sector trained personnel. Non-trained entrepreneurs show the least in technological confidence in the sector.

What the above table does not capture are the actual technological contributions caused by the above shifts between the two groups. Formal sector entrants do introduce new products into the sector, whereas in most cases, informally trained personnel will diversify an existing product.



To examine these aspects we will look at two typical cases of product shifts between informally and formally trained entrepreneurs: one formal-sector trained and another informal-sector trained.

Case 1: Informally trained entrepreneurs: A metal work entrepreneur in Mlango Kubwa finished standard 7 in 1974. After 6 years of undertaking casual jobs both in his birth place Mareira sub-location of Murang'a district and Nairobi, he decided to join his cousin working as an apprentice in Mlango Kubwa area of Nairobi. After only a month's period of apprenticeship, he began his own productions (i.e., 1980). His first products were exactly what his cousin was producing, hinges and stoppers. Four years later he moved to the production of 'wall pass' and gutter brackets. This change required little or no technological changes in his equipment nor any further training. The products were not new to the sector either. His cousin was producing these products, "he saw him doing them and he also began". In 1989 he began manufacturing T-hinges and vane pipe holders. Each of these product changes were not new to the sector. The products he began manufacturing in 1989 had been manufactured in the sector from 1978, thus the technological contribution to the sector is non-existent. We should note that for a majority of informal sector firms, production shifts are limited within the sector's technological frontier.

Case 2: Formal sector trained (OJT): After finishing school in 1972 a metalworker in Gikomba area, worked in a hotel for one year in Mombasa then did another one year stint with the Kenya Ports Authority. It was at this stage that he got exposed to metalwork in General Engineering Works. Between 1975 and 1982, he did various fitting, welding, and turning jobs in formal engineering firms before joining the informal sector in 1982. He began by producing:

1982, steel windows and gates,  
1985, wood clamp holders,  
1986, circular saws,  
1988, weighing scales.

Technological shifts by formal sector entrepreneurs result in products beyond the sector's production frontier. Each production stage has required a significant technological shift, and the product developments have broken new ground. If the products had been produced in the sector at all, it was at very minimal levels. It is through such formal-sector trained entrepreneurial contributions that the sector has moved to the manufacture of weighing scales, weighing machines, welding machines, hand saws, circular saws, wheel rims, dentist chairs, to name a few. By contrast, informally trained entrepreneurs have not thus far had strong impact on technology in the sector. What the majority of informals do is to increase production of newly introduced products. However, as we have mentioned, a great deal depends now on the quality of training being offered by this first generation of innovative informal entrepreneurs who had their own training in the formal sector.

In metalwork, all new technologies have been introduced by formal-sector trained entrants. Such technologies are then passed to informally trained entrepreneur through trainer/apprentice relationships. These "formal trainer/informal sector apprentice" relations then at the second level develop into "informally trained trainer/informal apprentice" relationships. Theoretically the technology becomes routine and widespread in the informal sector. As mentioned later in the associational relationship chapter, associations may begin to play a new and important role in technological spread in the sector. Other means of technological spread are simply through direct copying of products by other informals.

The problem with this rapid technological dissemination that occurs in the sector is the resultant competition. Competition increases heavily, and profit margins are

seriously lowered. Very few firms are able to shift production beyond the sector's current production frontiers (particularly informal firms) where there is less competition and profit margins are normal. Low profits imply low investments and firm stagnation. They find themselves in stagnation traps, and could eventually die off.

How do non-trained entrepreneurs in the sector survive these markets, given that they have no product shift capabilities? We should note that all non-technically trained entrepreneurs in metalwork produce steel windows and other building fabrications. This section of the metalwork sub-sector has a large labour base, both from vocational and informal sector settings, thus enabling entry by non-trained entrepreneurs into the sector. Given that they are non-technically trained, these entrepreneurs specialise as managers. They do not double as production managers, giving them the necessary time to search for orders. Secondly at the point of entry, such people have options to setting in up any other trade. Their choice to join metalwork means they already have necessary business connections, particularly markets. We should note that the difference between a trained entrepreneur and an untrained one is that the original entrepreneur could give up profit maximising decisions for technological consideration: the latter always make profit maximising decision. Product quality is not the issue: whatever sells with the highest profit margins counts most. This makes them much sharper entrepreneurs.

#### Woodwork

In woodwork production we did not look at machine making capability as is not common in the sector. There were, however, two individuals, both metalworkers by trade, but owning woodwork firms who had machine making capabilities. Otherwise most of the sector's machinery comes from the metalwork sub-sector. Non-trained entrepreneurs especially with other firms showed higher technological standards.

TABLE 4.14: RELATIONSHIP BETWEEN TRAINING AND TECHNOLOGY IN THE WOODWORK SECTOR:

Training Type	High Product Quality	Technological Confidence	Capital Stock Levels
No Training	8%	8%	111,177
Informal Training	11%	0%	2,706
Vocational** Training	N.A.	N.A.	380,000
Formal Sector Training	33%	16%	23,000
Combined Vocational and Formal Sector Training	33%	16%	57,701
Higher Levels of Training Not in Field of Trade	100%	25%	120,975

\*\* Indicates there was only one person in that group; the figures do not allow generalisations.

This is particularly true of the higher level trained ones (column 6). There were only four of these, of which two were salesmen, one in a furniture firm, one an accountant by training, and the last of the group had a diploma in agriculture. There are only two levels of production, that is either for high income markets or for low income. Of these four, only one started off producing for high income. Another started with low income products before moving into producing for middle and high income consumers. They certainly show much higher levels of technological confidence. They also have relatively much higher levels of capital.

Entrepreneurs trained in either formal sector (OJT) and/or vocational institutional training follow, with 33% producing for high income consumers. There is more technological confidence in these entrepreneurs than in other training firms. The formal sector training may help explain this fact. They obtained their training in firms producing for high income consumers, using highly capital intensive production methodology. Through adaptive reactions they too

follow the same pattern. Informal firms have had the least technological capability so far.

#### Tailoring

In tailoring there are three main types of entrepreneurs, namely those not technically trained in tailoring, informally trained, and vocational institute trained tailors. Vocational institute training exemplifies higher technological confidence over their informal counterparts, however none of the two groups showed any form of production shifts towards higher production qualities. Only one out of 10 vocational institute trained tailors produced for the middle class in Kenya, while the rest produced for low income earners. Production standards in the sector are a reflection of training standards. Vocational training is limited by lack of skilled teachers. There is no control on the large number of private training institutions that teach little more than how to use machines, types of stitches and how to reproduce them. Nothing is taught on materials, designs, product quality, and fashions. Informal training is even more depressing in its content. This industry has such low technological input compared to woodwork and metalwork mainly due to the lack of formal sector industrial influence on it. There were no known former tailors in formal sector industries producing such products.

TABLE 4.15: RELATIONSHIP BETWEEN FIRM TYPE AND TECHNOLOGICAL LEVELS:

Training Type	High Product Quality	Technological Confidence	Capital Stock Levels	Machine Making Capability
No Training	N.A.	N.A.	N.A.	N.A.
Informal Training	0%	0%	22,410	0%
Vocational Training	11%	0%	17,566	0%
Formal Sector Training	N.A.	N.A.	N.A.	N.A.
Combined Vocational and Formal Sector Training	N.A.	N.A.	N.A.	N.A.
Higher Levels of Training Not in Field of Trade	33%	0%	66,500	0%

The highly trained personnel other than in tailoring (column six) have the highest technological levels in the sector. There were only three in this sector, and one was a B.A graduate, one a diploma level nurse, and the other had a diploma in advanced secretarial studies. These firms had higher capital stocks and showed more flexibility towards producing for the middle and high income producers. These higher technological levels can be attributed to more exposure to consumer tastes.

#### Candle work

Candle work like tailoring, has no formal sector entrants as the industry is absolutely homogeneous in both its technological content and its products. The technology used in this sector is rudimentary and a relic of an originally more comprehensive tinsmith technology held by the Asians. Africans who learned tinsmithing went on producing just a single product. There is not much future to this technology, and any technological improvements to it are very unlikely to come from the informal sector. The technological difference between this tin lamp and the next closest product produced in

Kenya, the bulb, is very great. It is unlikely that any middle level technological improvements could occur on the product.

TABLE 4.16: TRAINING AND TECHNOLOGICAL LEVELS IN CANDLEWORK

Training Type	Technological Confidence	Capital Stock	Machine Making Capability
No Training**	0%	2,000	0%
Informal Training	0%	680	0%

\*\* indicates there was only one person with no training

#### Policy implications

We note that growth of the metalwork sub-sector is greatly dependant on technological growth. Technological innovations have in the past been obtained mainly from formal sector industries. An economically feasible innovation in the short run may come from existing firms shifting into the production of the new product. In the long run, however, there may be an influx of entrepreneurship (either former informal trainees or more efficient non-artisan entrepreneurs if a large labour force has been trained), causing an initial expansion of the sector at the macro-level. However this large number of producers may end up in stagnation traps as explained previously. If so, they will need other technological innovations in the sector to sustain them. There are limits to the formal sector as a technological source. The Kenyan engineering industry itself is greatly dependant on imported machinery and as product technologies deepen internationally, the products come in ready-to-assemble kits. The only form of value added is assembling and this has very little technology imparted at the local level. The only answer to this is higher levels of training. Vocational institutes should, therefore, expand their scientific and technological depth to trainees at all level of institution.

Projects currently being explored on developing joint resource centres should include technological innovation in the sector as part of their goals. Training institutes should be encouraged to have direct product research and dissemination through these joint resource centres.

In industries, such as tailoring, where little or no formal to informal sector movement is noted, technological levels should be improved through vocational training. There is need to revise curriculum in vocational institutes of tailoring to include product designing and exhibitions to improve outlook in this industry. Otherwise, it goes without saying the informal sector tailoring industry will not survive increasingly popular market liberalisation trends. As it is, tailoring entrepreneurs in urban areas complain about the mass influx of second-hand clothing. Entrepreneurial and worker outlook will have to change drastically. There is enough technical expertise in Kenya to take on these challenging tasks. The training curriculum in institutes such as the Kianda Design College, (though costly) should be studied more seriously and recommendations by experts on ways of improving national curriculum attended to.

The inter-relationship between training and technology in the sector is salient. Vocational training could play a more important role in the sector in the future if the curriculum were to take account of technological levels in respective sub-sectors. This could go a long way to improving technological levels in the sector. Education, on the other hand, also does have effect in developing entrepreneurship and improving quality of entrepreneurs. A well-oriented education and training policy should enable the sector to be more dynamic and economically stable.



## Part 5

## ASSOCIATIONAL ACTIVITY: THE INFORMAL SECTOR FINDS A VOICE

Objectives: Promote self reliance, recruit artisans both male/female into self-employment, create employment opportunities to train on the job artisans, create social contacts and unity among members, educate members on new developments in the trades, maintain chapters over the whole country, non political, (encourage members to register as KANU members). (Excerpt from Constitution of a Jua Kali Association Portion in brackets later revised)

The most astonishing dimension of informal sector history in Kenya, suggested in part one, is its silence. No shortage of papers about it, but no voice of its own, until almost the end of our period. This is unlike the artisan trades in several other countries, including West Africa, where there is a strong sense of craft membership, with rules of apprenticeship, society meetings etc. In East Africa, with few exceptions, there has not been a longstanding craft tradition, fenced about with rules and obligations.

In Kenya, there were some hints of associational activity in the mid-1970s, but not until the informal sector taxis (*matatus*) flexed their muscles in the early 1980s was there evidence of the importance of organisation. What is intriguing about the really major development in association formation is that the Head of State appears personally to have encouraged it, in late 1985, by suggesting a connection between organising into groups and getting free access to sheds, and even getting title deeds. Outside the artisan area there has been plenty of experience of forming self-help groups, co-operatives, and companies to build schools, market cash crops and purchase land; so it did not take much prompting once the President had led the way.

Some of the earliest to register did so as local self-help groups (Harambee Groups) with the Ministry of Culture and Social Services (the Ministry of Technical Training and Applied Technology [MTTAT] did not yet exist); and it is interesting to note that they did so as location-cum-trade groups: The Kamukunji Blacksmith and

General Metal Works, or the Jua Kali Nyayo Garages Association (this was later amended to Ziwani, an area, rather than the president's philosophy, Nyayo). It is perhaps worth noting that these first associations were in the trades associated with the original meaning of jua kali: blacksmith, metalwork and mechanics. But as associations began to be formed upcountry, they were much more likely to emphasise the town and not the trade. Thus the Nakuru Jua Kali Co-operative Society was reportedly being formed in 1986, with no trades specified, and similarly many others from Narok to Nyahururu, and from Mombasa to Kisii. Nairobi was the only city where, because of the specific sites of the president's visit and his gift of sheds to those areas, there was a tendency for all subsequent societies and associations to be very restricted in their constituency. Thus, the Rabai Road Jua Kali Society, or the Makadara Engineering Workers Co-operative Society. Most other provincial and district centres, and even smaller towns, and even some villages, simply used their place name.

Once MTTAT had been formed in early 1988, it became commonplace for emerging groups seeking advice to be told to gather a list of interested members, filling out a ministry form with photographs and registration fee. This way a Jua Kali Artisan Identification could be acquired which was thought to ensure some security of tenure, and also some rights over whatever good things might later be allocated, whether sheds, land, title deeds, or loans.

There was accordingly some interest in knowing how wide the definition of jua kali might be, and, since spaces in any sheds would be limited, who might qualify as a jua kali. As late as 1990, the Meru Jua Kali were seeking to discover from the government as 'we are not very clear on who actually is a jua kali artisan.., whether we should continue to register our women artisans engaged in various jua kali activities like knitting, *cionao* (basket) making, dressmaking and weaving.' They were told that, of course, women are an integral part of the sector, but that the definition of jua kali artisan was deferred for some period.

Another dimension of the definitional question was whether jua kalis were only the owners of micro-enterprises, and the employees were not eligible. In practice it was owners rather than employees who probably made up the bulk of the early registrations. And the jua kali questionnaire from MTTAT asked about number of other artisans or trainees working for the individual, but did not allow the possibility of the person being an employee.

The process of association formation initiated a form of communication both with the local administration and with one or other ministry in Nairobi. In a number of cases, the local MP or a minister from the area took a personal interest in his or her constituency getting sheds and other facilities. Inevitably in a new ministry with no fieldstaff, it was not easy to push ahead with a national programme of building. By June 1988, there were some 13 groups of sheds built. A year later the number was 27.

But the very insistence by government that due procedures be followed in forming societies, appointing officers, and registering members put new pressures on the Jua Kali Ministry. In the manner of harambee self-help groups most of the societies had set membership charges (quite apart from the registration fee with government), and in many cases there were possibilities of buying shares, and/or of monthly contributions. It became important for jua kali association chairmen to be able to deliver some return on these investments. From the early provision of sheds in Ziwani and Kamukunji, at apparently little or no cost to the members, it seemed that it was not necessary first (as in other Harambee fund-raising) to raise substantial funds as an association, and then apply for government aid. It looked as if government had things to give out. The response in any event was dramatic, and by mid 1990, there were well over 100 registered jua kali societies and associations, and many others, such as that in our study village of Githiga, under the process of formation.

This early pattern of a certain dependency on government may well have meant that there was a good deal less interest in organising major local fund-raising events, with MPs as guest celebrities. The critical issue seemed to be the allocation of plots, linked to sheds. Given the pressures on land, especially in Nairobi, it should not perhaps be surprising that some societies have still not made much progress on this matter.

While there was clearly potential for jua kali associational development to turn into the newest phase of harambee fund-raising, there was also scope for this mushrooming of societies to take on a national dimension. This had been discussed by various individual chairmen of jua kali societies from relatively early on. Indeed it may have occurred to some of them that particularly in Nairobi the division of jua kalis into a whole series of small locations militated against the emergence of what could be a very large urban movement. One of these chairmen in fact wrote to MTTAT in June 1989 specifically about the proposal to form a National Jua Kali Association:

It was the wish of all attendants (at the seminar) that we be advised by the Ministry of how to form a national body to bring together all the established jua kalis countrywide. (Jua Kali association files)

The Ministry in the longer term was not necessarily opposed to the idea of an apex body for jua kalis, with representation built up from district to province, to the national level, and closely linked to the Ministry itself. But a national jua kali association with possibly mass membership in all the main towns, and setting its own agenda publicly on all the controversial issues that had been repeated since the 1972 ILO report was a very different matter. Furthermore, as these associations were forming at the very time that multi-partyism and grassroots representation was gaining widespread popularity in many African countries, including Kenya, it may well have been thought that a new countrywide movement was not opportune.

Implications of associational activity for the research project.

At one level, the development of a set of representative bodies commenting on the special interests of the jua kali is important in its own right. However, there are a number of ways in which the existence of these bodies has significance for some of the other matters we have been concerned with in this report. We shall briefly note these.

#### Image, visibility, and the market

One of the most direct consequences of the President's visit, particularly to Gikomba and Kamukunji is that activities were given a name, and these markets for goods and services were much more visibly put on the map. This Kenyanisation and identification of the informal sector as being a particular set of activities was crucially important. Of course, very large numbers of customers have known of their goods and services for a long time, but the provision of a limited number of shelters, and signs for the society and some of the leading firms within the complex has certainly affected the marketing and public face of Kamukunji, and has almost certainly also increased the range and even the quality of the goods on offer. The publicity for jua kali has put sites like Kamukunji and Gikomba on the map for key civil servants, foreign visitors, and of course for those donors and NGOs that did not already know of it.

Many leading Kenyans clearly did not appreciate the product diversity in the informal sector workshops, and in conjunction with the media have probably contributed in a small way to more people becoming their customers. The view of a number of the owners is that the demand for their products has grown since 1986. There is a difference, however, between Kamukunji or Ziwani where sheds have simply been erected over a portion of their existing operations and other Nairobi associations who have a name, a committee, a membership list, and not much more, after a year or two of being in the business of associational development. Indeed,

some of the chairmen would argue that their personal businesses have taken losses because of the amount of time dedicated to lobbying, etc. Different again in the case where the provision of sheds turns out to be the occasion to move artisans away from some central area with large numbers of consumers to a location which, however new, has no access to the market.

#### Technological transfer across jua kali associations

The Jua Kali Development Programme in MTTAT has managed to have a discernible impact on the dissemination of knowledge about jua kali technical capacity within the country. It has done so by encouraging greater jua kali participation in the regular agricultural and trade shows, but more particularly by sponsored exhibitions dedicated to jua kali products, of which there have been examples in November 1989 and 1990.

More intriguing however in the whole process of technological dissemination is MTTAT support of a visit of a jua kali group from one part of the country to some of the more advanced centres. Certainly one very dramatic example of this was the visit of the Rumuruti Jua Kali Self Help Group in mid -1989 to Gikomba and Kamukunji. In the area of technological intervention, it is rare to have such explicit accounts of what a group of artisans from a small rural centre could gain by a visit to the technologically advanced jua kali areas of Nairobi. Some excerpts from their report are worth reproducing here:

We learnt how to make metal boxes.. as many as 6-8 a day. Why? This is because they (in Kamukunji) had Jua Kali machinery which made work easier...

Forge machines:.. Our artisans have already started making one which will save time and money ...

(In Gikomba)..Cutting machines..the hand-operated ones were better than those in Kamukunji and simple to make. Our artisans have started to make one.

Wood furniture: These were of very high quality. The machines involved were very expensive.

There were surprises of a different sort also in store for the rural artisans. In particular they were astonished to discover that the urban artisans did not seem to pay trade licenses. They commented:

In our area there are many artisans who are just at home doing nothing because the licenses are too high for them to pay in order to operate.

They also judged, perhaps unfairly, that one of the associations seem to have 'no plans to assist themselves but were looking forward for assistance from the ministry.'

There are a number of questions to be asked about these kinds of technological exposure visits. They apply perhaps equally to the more formal courses mounted by some of the NGOs (such as UNDUGU, ActionAid, and ApT) and the planned intervention by UNIDO in relevant machinery development in a site near Kamukunji. All of them are predicated on the view that the more people there are who have machine-making capability the better. For instance in the apparently very successful ApT courses run in Karen in 1991 (funded by ODA), it is actually stated as one of the course objectives:

By the end of the course, each participant must be able to replicate his chosen design, and be able to teach other artisans from his local area how to make it.

We are not arguing here against the spread of machine-making capability. By any measure there are far too few labour saving technologies available in Kenya. Our concern is with the wider picture of where Kenya's informal sector can expect to proceed technologically, and what are the principal mechanisms that can connect the jua kali technologies to a trajectory of increased growth.

It seems possible that the jua kali associations may become the target of a number of donor and NGO attempts to do something about enlarging the current technology frontier in the informal sector. Thus, ODA has been interested in exposing jua kali association leaders to technological

developments in India and Ghana, and has been exploring a technology support project with a particular group, the Mombasa Jua Kali Association. The organisation of this grouping has made possible new ways of thinking about technology support. And it seems likely that other associations will also approach donors and NGOs direct.

#### Associations and institutional incorporation

What is still unclear after three or four years of associational activity is the direction these new groupings will take. At one level, they could become the leading edge of a new harambee fund-raising frontier, once it had become clear what were the priority actions for which funding should be secured. At another level, they constitute a massive, if highly internally differentiated, sector of the population. They could emerge as a pressure group like local chambers of commerce, to put pressure on local government and town councils for equitable treatment, allocation of space, and for representation.

The sub-sectoral difference among trades (which has constantly been shown in our own work) may suggest that it will prove difficult to find common ground among entrepreneurs who are at very different levels of technology, capital stock, and ownership of permanent premises. We were not therefore surprised to find that only a minority (30%) of our sample claimed to be association members. A great deal will depend on whether, as with the earliest initiatives, there appear to be advantages to the firm in membership. If, for example, associations can become the direct recipients of the rather large amounts of aid for microenterprise that are in the hands of NGOs and other donors, then a certain pattern of development could emerge.

The critical question must be, however, the relationship of the jua kali associations to the state in Kenya. Thus far, they have scarcely been considered important players in the whole Centre Project/Small Enterprise Development which was otherwise a highly consultative process. However, as the Jua



Kali Ministry proceeds to examine the needs of the informal sector in different towns, it is increasingly obliged to pay attention to the local jua kali association. In one recent report for the Ministry, it is clear that the lack of consultation between the jua kali associations and some local authorities (town councils) has been a problem, but in others there is evidence of an evolving relationship, especially where the artisans are clear about their priorities (Matrix, 1990).

It is still too early to say whether the events of November 1990, both in Nairobi and in several other towns, have undone the cooperation between local authorities and the informal sector that had been emerging, nor whether it has altered the informal role of patron of the sector that had been taken by the Head of State.

In this connection, the candleworkers in Nairobi felt particularly vulnerable. They had no permanent premises, they had not become members of any of the jua kali associations. Those within our sample all registered in August 1990, and received their identification cards a month or so later, but in a communication of November, after the clearances, there is a distinct sense of uncertainty about the future:

Another thing is the authority here has given an order to demolish all unplanned buildings and shanties, and they have cleared most parts of the city; so although we are not cleared, they may come at any time and we have no idea where to go.  
(26.11.90)

## Part VI

## THE BUILDING OF AN INDUSTRIAL SOCIETY

The building of this industrial society out of the informal sector in Kenya, as it is understood today, can be traced to when the first Kenyan Africans moved into self-employment, using technologies learned from training institutes for Africans.

A second push towards the building of African industrial capacity, however, began when the first Kenyan Africans with technologies learned from European technicians moved into self-employment. We have evidence of one such entrepreneur, who began his business in 1941 after a six-year training stint with an Italian technician. The "emergency period" in Kenya interfered with this process of industrial exposure, but it picked up again in the early sixties. This time European firms provided technology for a round of industrial capacity building through OJT training. The third notable push occurred in the early eighties. Crucial technology this time came mostly from Asian firms. Several of these Asian firms were previously British firms. Many also derived from the Asian move from trade to manufacturing. It was at this stage also, that considerable growth occurred in the informal sector. In between these historical thrusts, the informal sector also had its own internal growth. Entrants from the formal sector trained trainees who set up their firms, and further increased training capacity. The result was rapid growth of the sector.

We note that technology has seemed to be the basis of the sector's growth. More precisely, the growth of the informal sector is certainly still technology-led today. All its crucial technology has come from the formal sector and not from vocational institutes. Lack of considerable vertical growth in the tailoring and candlework industries is testimony to this. The quality differences between production in small-scale and informal tailoring firms, on the one hand, and those produced by the formal sector are tremendous. Production

quality in much of the sector is very low. Even more dramatic, the candlework sector has had no change at all in its production over almost 20 years. Even its horizontal growth has been greatly limited. These sectors characteristically do not have entrants from the formal sector. Thus, in general, the importance of technologies beyond what are currently being provided in schools and training institutions is without doubt the basis to the sector's growth. The only available source has been the formal sector.

This has had its own negative effect. Technology learned from the formal sector (on the job training) is obtained by adaptation and adoption. This kind of learning lacks an explicit understanding of science and technology. Translated to real life, this means that a wheel axle is built without consideration of cart or car load. The artisan seeks to ensure success by beefing up steel in the axle. The result is inefficient production, material wastage, and inability to have major changes in product to suit new tastes, or be constantly competitive with the modern world. Technology, transferred from the formal sector, becomes static. In the formal sector, by contrast, access to international technologies gives dynamism and a whiff of new life.

When we say that the sector itself does not generate its own technological spurts, we mean there is no moving to higher technological echelons. This suggests that an individual with ability to cut and weld can produce lots of things if he is imaginative. However he can only produce so much as welding and cutting can allow him; beyond this he will need help. To us, technological development is not just the exhaustion of created technological capacities (through product adaptations and differentiation) within a technological echelon, but actual shifts into different technological echelons.

We also are not suggesting that credit, education and training do not affect growth of the sector. These aspects either help in sustaining the growth already achieved initially by technological development and/or act as channels through which technology is inseminated into the sector. These

differences should be clear, so that policy could address technology directly and indirectly.

What implications, therefore, are we suggesting as to the sector future growth and importance in Kenya? We did mention before that Kenya's education, training, and employment alleviation policies encourages movement into self-employment. Training alone, over a five-year period, will produce an estimated one million graduates between village polytechnics, and other vocational training institutes<sup>3</sup>. If all these people are to be absorbed by this sector its potential for growth should be expanded. This can only be done through technological thrusts.

Even if the pressure was not to create massive self-employment opportunities there is a need to ensure the expansion of capacities in the sector if an industrial society is to be nurtured from the informal sector.

One could argue that the informal sector could continue obtaining its technological impetus from the formal sector and does not need technological policies. If the formal sector's technological base line was expanding fast, this could be the case. However, unfortunately, the formal sector's industrial base is increasingly losing its upward surge towards industrialisation. Most industries are service-oriented or are dealing with ready-made kits from the western world. Secondly, where technology is available in the formal sector, it is in such specialised form that labourers in these firms have little they can gain from it. The phase when the formal sector could provide technological pushes to the informal sector is actually rapidly dwindling, especially as new information technologies, now embedded in formal-sector technologies, are not so transparent or accessible as earlier technological modes.

Policy should address itself to how technology dissemination can best and most effectively be achieved. Some really pressing issues in the process of building up an

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<sup>3</sup>

These figures are estimated from annual data on the number of graduates from vocational institutes.

industrial society include:

Which are the existing unused local technological capacities that can be made to co-operate in technological matters with the informal sector?

How best can science be infused into the technological acquisition process of the sector without disrupting its various positive attributes?

How can policies on technological innovation be introduced in the sector without affecting the sector's characteristic ability to diffuse technology among its members?

How can the informal sector's dependence on technological inertia from the formal sector be shifted to more conducive and more widely available technological sources, such as vocational training?

How can vocational institutes in themselves be made to improve their technological content for their graduates most effectively?

The concept of technologically-led growth and development in itself is not new. Very recently it was advocated by Thomas Odhiambo of the (ICIPE) International Centre for Insect Physiology and Ecology in a World Bank/IDS seminar in October 1990 where Odhiambo emphasised the use of technologically led growth fight on poverty (applied to agriculture) in South Nyanza district of Kenya. We can only repeat this compelling phrase - technologically-led growth - concluding that it might be the single most important path to building an industrial society in Kenya.

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